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Burnout in Hungarian and Swedish Emergency Nurses: Demographic Variables, Work-
Related Factors, Social Support, Personality, and Life Satisfaction as Determinants of
Burnout.

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**Burnout in Hungarian and Swedish Emergency Nurses: Demographic
Variables, Work-Related Factors, Social Support, Personality, and Life
Satisfaction as Determinants of Burnout.**

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DEDICATION

TO MY PARENTS; YOUR HARD WORK, BEAUTY, AND WISDOM IS ADMIRABLE.
I LOVE YOU!

TO MY SISTERS; 2 GIRLS WHO DEFINE TRUE BEAUTY, BOTH FROM THE INSIDE
AND OUTSIDE.

TO LAAACI, TINDRA AND TRISTAN; ENERGETIC, LOVING AND ABSOLUTELY
CUTE.

TO HAIM; YOUR WISDOM, CREATIVITY, ENERGY, AND HARD WORK MAKES
MY LOVE FOR YOU STRONGER EVERY DAY.

TO LILIA; MY BEST FRIEND, WITH IMMENSE ENERGY AND STRENGTH, WHO
WAKES UP EVERYDAY WITH A SMILE ON HER FACE.

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ABSTRACT

A great deal of research has been dedicated to the burnout syndrome as a negative health outcome for especially nurses experiencing work-related stress (Dantzer, 2001), however, nation-based comparisons regarding burnout are very limited. The purpose of this study was to look at the differences in burnout among 90 Swedish and 97 Hungarian emergency nurses, and to see to which extent demographic variables, work-related factors, social support, personality, and life satisfaction, could be related to burnout in the two samples. Also, this study intended to look into if some of these factors might serve as protective factors against burnout and give suggestions for burnout prevention. The results showed that the Hungarian nurses had significantly higher levels of burnout than the Swedish nurses. It was also shown that the Hungarian nurses experienced more work-related stress in general than the Swedish nurses. The assumed work stress factors for each sample could be significantly related to burnout, however the ones not assumed in the study could also be significantly related to burnout in each sample. The Swedish nurses scored higher on life satisfaction but it was shown that life satisfaction did not have any influence on burnout, even when nationality was taken into consideration. Looking at the personality variable, the Swedish nurses' had higher psychological immunity levels and it was shown that higher psychological immunity resulted in lower burnout for the Swedish nurses. No significant differences could be found for social support between the two samples, thus it could not be related to lower burnout for the Hungarian nurses, as assumed in the study. Swedish nationality and psychological immunity were both shown to serve as protective factors against burnout, and more precisely it was shown that higher psychological immunity was the best protective factor against burnout. Only two demographical variables had a significant effect on burnout, namely nationality and marital status, and more precisely Swedish nurses together with married nurses had lower levels of burnout.

Keywords: burnout • nurses • Hungary • Sweden • demographical variables • work-related factors • social support • personality • life satisfaction

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1. INTRODUCTION

1.1. PURPOSE OF THE STUDY

When it comes to the relationship between emotions and health, researchers and the literature has paid considerable attention to it. In general, it can be said that positive emotions have been associated with positive health outcomes and negative emotions have been associated with negative health outcomes. There is a great deal of research being dedicated to the connection between a person's mental state and a person's physical health. Specifically, a great deal of research has been dedicated to the topic of the burnout syndrome as a negative health outcome for people experiencing work-related stress (Dantzer, 2001).

The use of the term burnout began to appear with some regularity in the 1970s, in America and especially among people working in the human services. The first articles appeared in the mid 1970s in America and they described the basic phenomenon of burnout, gave it a name, and showed that it was not an uncommon response. These articles were based on people working in human services and the first articles were written by Herbert Freudenberger in 1974 and Christina Maslach in 1976. In his articles, Freudenberger referred to burnout as the effects of chronic drug abuse. Initial research about burnout was descriptive and qualitative, using interviews, case studies and onsite observations. The central focus of the research at this time was on relationships between provider and client, provider and co-workers, and provider and family members. Also, in the 1970s, workshops were a primary intervention used for burnout (Maslach, Schaufeli & Leiter, 2001).

In the 1980s work on burnout was shifted to more systematic empirical research, quantitative methods, and larger subject populations. It was also during the 1980's that the Maslach Burnout Inventory, MBI, came; more precisely in 1981. At this time burnout was viewed as a form of job stress with concepts like job satisfaction, organizational commitment, and turnover (Maslach et al., 2001).

In the 1990's the empirical researches of burnout continued, however research extended beyond the human services and education. Researchers started conducting research on burnout in the military, with managers, and within the computer technology. Also at this time researches were improved with more sophisticated methodology and statistical tools. A few

longitudinal researches started to emerge concerning the links between work environment, and people's thoughts and feelings (Maslach et al., 2001). It was also in 1990, in Poland, that they held the first European Conference on Professional Burnout. From this conference a book emerged written by Schaufeli, Maslach & Marek (1993). This book showed the state of the burnout literature up to about 1993 and suggested directions for research. In 1993 burnout research borrowed a great deal from general psychological concepts (e.g., stress, existential psychology etc.) thus it didn't have a central theoretical background concerning its research. Today burnout research has tried to develop more refined theories of burnout (Halbesleben & Buckley, 2004). Schaufeli et al. (1993) noted that the original definition of burnout and most of its research was limited to those in human service roles (teachers, nurses, and social workers). To expand the occupational groups in the research of burnout, Leiter & Schaufeli (1996) did a study with almost 4 000 participants, including maintenance staff, technical workers, nurses, and managers within the healthcare industry. This research led to the argument that the study of burnout should not be limited to only service occupations.

Burnout was, according to Maslach (1982) considered a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do "people work" of some kind. It is a response to the chronic emotional strain of dealing with other human beings, particularly when they are troubled or having problems. Thus, burnout could be mentioned as a type of response to work-related stress. Although it has some of the same negative effects as other stress responses, what is unique about burnout is that the stress arises from the *social* interaction between for example the nurse and the patient.

According to Halbesleben & Buckley (2004), today the common definition of burnout is that it is a psychological response to work stress characterized by emotional exhaustion, depersonalization and reduced personal accomplishment.

There has been some questioning whether burnout is a separate phenomenon from other already well established constructs, like depression and job satisfaction. Earlier studies did find that burnout was related to anxiety and depression. However, after more research in the area had been done, studies confirmed dissimilarities between depression and burnout (see for example Glass & McKnight, 1996; Leiter & Durup, 1994). Schaufeli, Enzmann & Girault (1993, in Halbesleben & Buckley, 2004) said that there is a common language for the study of burnout which came in the form of the Maslach Burnout Inventory (Maslach & Jackson,

1981). This questionnaire was and is still today the dominant measure of burnout (Schaufeli et al., 1993).

Halbesleben & Buckley (2004) state that the last decade of research on the antecedents of burnout has continued to focus on work context and the work environment as the cause of burnout. Two major trends have emerged from the literature, personality moderators and social exchange relationships.

Personality moderators: This stands for the consideration of the individual as moderating the work environment – burnout relationship. Much of the early burnout research focused on the role of environmental factors in the prediction of burnout. Emerging trend over the past decade has been a focus on the interaction of environmental and personality factors in burnout. For example the Big Five personality factors have predicted components of burnout beyond the effects of role stressors, where neuroticism has been associated with higher emotional exhaustion (see for example Bakker & Schaufeli, 2000). In sum it can be said that stress will lead to burnout to the extent that personality factors moderate that relationship.

Social exchange relationships: This stands for the role that social exchange relationships may play in the development of burnout. Research trend in this field is investigating whether feeling of inequality in social exchange relationships may be associated with burnout, for example that nurses may invest more than they get back from patients (see for example Buunk & Schaufeli, 1993, in Schaufeli, Maslach & Marek, 2000). Here they are also looking at the impact of social comparison information on burnout, which means that the social cognitive processes underlying stress may influence the relationship between stress and burnout. For example, when a worker compares herself to her peers and sees that they are being paid more and/or treated better, the comparison may serve as an additional stressor. In sum, it can be said that research of burnout must consider elements of the work environment together with how individuals react to and perceive that environment (Halbesleben & Buckley, 2004).

Also Maslach et al. (2001) have mentioned the causes of burnout and mention that there are characteristics of the job which might increase the risks of burnout, like for example workload, time pressure, role conflict, role ambiguity, and absence of job resources (e.g., social support, information, and control). There are also occupational characteristics which might be connected to burnout, like emotional challenges or stressors (e.g., problems in interacting with clients, frequency in contact with ill patients, confrontation with death or dying). There are also emotion-work variables related to burnout, like for example display or

suppress of emotions, and to be emotionally empathic. Also the organization might have characteristics which may contribute to burnout, like for example values implicit in organizational processes or structures and changes in organizations (e.g., downsizing).

When it comes to which people are said to be experiencing burnout, there are demographic characteristics which have been shown to influence burnout, like for example age. This is said to be the most constantly factor related to burnout. Other demographic variables which have been related to burnout are unmarried people and if a person has higher level if education. Personality characteristics which have been related to burnout are: low hardiness, poor self-esteem, external locus of control, avoidant coping style, neuroticism, Type-A behaviour and “feeling types” of people. A Job attitude which has been related to burnout is for example high expectations when these expectations are not giving the expected results (Maslach et al., 2001).

Chang, Daly, Hancock, Bidewell, Johnson et al. (2006) report that today researchers agree about work-related stress having a negative affect on the health of workers. According to Lambert & Lambert (2001) research has especially been looking into the effects of stress for health care workers and then in particular health effects for nurses. There has been extensive research conducted about the effects of stress on the health and well-being of nurses (see for example Burnard, Edwards, Fothergill, Hannigan & Coyle 2000; Edwards, Hannigan, Fothergill & Burnard, 2002; Edwards & Burnard, 2003; Hannigan, Edwards, Coyle, Fothergill & Burnard, 2000; Lambert, Lambert, Itano, Inouye, Kim, et al., 2004) and these researches have found that stress connected to work contributes to decreasing working life quality, development of psychiatric complaints, and the occurrence of physical illnesses for nurses. According to Allen & Mellor (2002) nurses have especially been documented as suffering from poor health outcomes due to work-related stress arising from the characteristics of their jobs. Nurses are caring for other people, and also the hospitals and the patients have high expectations on them. This is the reason why burnout has especially been related to nurses and why researchers have especially investigated nurses and their levels of burnout.

In the literature there has been studies dealing with stress and burnout related to different hospital wards and among nurses having different specialties. Research has shown that burnout and stress levels may be different in connection to different wards. It has for example been shown that the level of stress is less for those nurses working in palliative wards than in

oncology wards (Sherman, 2004). Escriba-Aguir, Martin-Baena & Perez-Hoyos (2006) has pointed out that nurses working in emergency wards are facing a number of psychosocial risk factors due to the nature of their work. These psychosocial risk factors can include workload, not having social support, not having much spare time, unmanageable working rotation, patients with serious illnesses etc. These psychosocial risk factors can have a disadvantageous effect on the nurses' physical and mental health, and their well-being.

Looking at burnout from an international perspective, there has been some research conducted internationally when it comes to burnout. By the 1990's much of the research, theory and intervention was conducted outside de United States. The three-factor structure of the Maslach Burnout Inventory (emotional exhaustion, depersonalization and reduced personal accomplishment) has been shown to be consistent across different countries (see for example Lee & Ashforth, 1990; Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001, in Maslach, Schaufeli & Leiter, 2001; Schutte, Toppinen, Kalimo & Schaufeli, 2000; Taris, Schreurs & Schaufeli, 1999).

Looking more specifically at burnout in Hungary, Piko (1999) state that the nursing profession in Hungary has undergone dramatic changes due to an ongoing general Health Care reform. Since 1989 there have been major changes in the health care system connected to policy-making, ownership, financing, management, service structure, patient's rights, and medical and nursing education. There have been severe cuts in social welfare and health care expenditures. Today in Hungary there is a situation where health care staff has low salaries and there is a tendency among nurses to leave their jobs. When it comes to research about nurses' burnout and job satisfaction in Hungary, there is a shortage of studies which have been conducted in this area. Relationship between occupational stress and nurses psychological health has however been studied. Other research in Hungary has shown that generally burnout is high among Hungarian nurses and that there is a strong relationship between burnout and psychosomatic symptoms. Emotional exhaustion has been strongly related to job dissatisfaction, and emotional exhaustion together with depersonalization has been related to role conflict.

When it comes to burnout in Sweden, the Swedish Work Environment Authority has listed health care work as one employment sector with significant work environment problems and an area that has to receive prioritized attention. It is said that one third of all reported

occupational diseases within the Swedish health care sector during 2004 were related to organizational or social factors, like workload, incompatible or diffuse work demands, and traumatic experiences. Also, registered nurses had the highest frequency of such reported cases, followed by assistant nurses. Research in Sweden has for example found that perception of the possibility of receiving a high level of support from supervisors, co-workers, and patients was related to lower levels of emotional exhaustion and depersonalization, and higher levels of personal accomplishment. Research has also found an association between high emotional demands and high burnout levels. An example of current research being focused on in Sweden is addressing which role performance-based self-esteem plays in burnout (Sundin, Hochwlder, Bildt & Lisspers, 2006).

Even though there has been some research conducted internationally regarding burnout, according to Halbesleben & Buckley (2004) there is a general need for an increase in cross-national research on burnout. Since the 1990's there has been an improvement within this field, especially with the translation of the MBI, however cross-cultural research on burnout is still comparatively new and more research is needed in order to get a better comprehension regarding the burnout situation across different countries and nationalities.

Looking at previous studies on burnout, the researchers have looked at burnout in comparison to for example **work factors** (see for example Addington-Hall & Karlsen, 2005; Belicki & Woolcott, 1996; Burke & Richardsen, 1996; Gabris & Ihrke, 1996; Halbesleben & Buckley, 2004; Low, Cravens, Grant & Moncrief, 2001; Maslach, Schaufeli & Leiter, 2001; Sethi, Barrier & King, 1999), **social support** (see for example Baruch-Feldman, Brondolo, Ben-Dayan & Schwarz, 2002; Burke & Richardson, 2000, in Halbesleben & Buckley, 2004; Chang, Hancock, Johnson, Daly & Jackson, 2005; Deelstra, Peeters, Schaufeli, Stroebe, Zijlstra & van Doornen, 2003; Dein & Abbas, 2005; Lambert & Lambert, 2001; Schaufeli & Greenglass, 2001), **personality** (see for example Bakker & Schaufeli, 2000; Buhler & Land, 2003; Colbert, Mount, Harter, Witt & Barrick, 2004; Ghorpade, Lackritz & Singh, 2007; Hobfoll, 2001; McVicar, 2003; Mount, Johnson, Ilies & Barrick, 2002, in Ghorpade, Lackritz & Singh, 2007; Zellars, Perrewe, & Hochwrter, 2000), and **demographic variables** (see for example Aries & Ritter, 1999; Cordes & Dougherty, 1993; Dillon & Tanner, 1995; Friedman & Farber, 1992; Jackson, 1993; Stundin-Huard & Fahy, 1999; Tyler & Ellison, 1994).

An area which has not been in focus of the burnout research is the area of life satisfaction. According to Diener (2000) life satisfaction is a global judgment of subjective well-being

(SWB). The meaning of SWB is how people are appraising their lives and one way for people to assess their lives is life satisfaction. People can assess their level of life satisfaction in relation to areas such as marriage, work and general life. Diener & Tov (2005) state that life satisfaction can be reliably measured across different countries and that life satisfaction is understood in the same way in different countries. According to Lee, Hwang, Kim & Daly (2004) when it comes to research done in the field of burnout and life satisfaction, not much attention has been paid to nurses and their life satisfaction. However it would be important to conduct research in this area since nurses' life satisfaction could influence their performance at work and their maintenance of their jobs. Life satisfaction connected to the work setting and health has only been looked into in the field of nursing to a limited degree (see for example Demerouti, Bakker, Nachreiner & Schaufeli, 2000; Nemcek & James, 2007; Tait, Padgett & Baldwin, 1989). In very general terms it can be said that life satisfaction has been positively associated with job satisfaction and that life satisfaction has been negatively associated with burnout (Lee et al., 2004).

The purpose of this study was to look at the differences in burnout among Swedish and Hungarian emergency nurses, and to see to which extent demographic variables, work-related factors, social support, personality, and life satisfaction, could be related to burnout in the two samples. Also, this study intended to look into if some of these factors might serve as protective factors against burnout and give suggestions for burnout prevention. The present study was conducted in order to contribute with information about the situation related to burnout for nurses working at emergency wards in Hungary and Sweden. According to Halbesleben & Buckley (2004) there is not enough cross national studies in the field of burnout and this study hopes to contribute to this gap in the literature by looking at burnout in Hungary and Sweden. This study cannot generalize its findings to the general emergency nursing population in Sweden and Hungary; however it can point out nation-based differences in burnout and the factors influencing it. The reason why nurses were chosen as the study population in this study was because according to Allen & Mellor (2002) nurses have especially been documented as suffering from poor health outcomes in relation to work-related stress due to the characteristics of their jobs. This study wanted to see if the Hungarian and Swedish nurses would report work-related stress and if they would also report poor health outcomes, i.e., burnout in connection to this. The reason why especially emergency nurses were chosen was because as Escriba-Aguir et al. (2006) has pointed out that nurses working in emergency wards are facing a number of psychosocial risk factors due to the nature of their

work, which may have a negative effect on their health. This study wanted to see if this holds true for the present Hungarian and Swedish emergency ward nurses. When it comes to work-related factors, social support, personality factors, and demographic variables the results in the literature regarding these areas in comparison to burnout has been inconclusive and since they have shown mixed results, it was decided to be of focus in this study in order to contribute to the existing literature. The psychological immune system as the personality factor was decided to reflect the personality dimension related to burnout since it is looking specifically at protective personality resources connected to environmental stress and since it has been shown that certain dimensions of personality might play an important part in burnout (Olah, 2005). Also, research in the area of burnout related to psychological immunity is scarce and accordingly this study hopes to contribute to this gap in the research on burnout and psychological immunity as the personality factor. An area which has been neglected in the research on burnout is life satisfaction. This study chose to include this variable as well since according to Lee et al. (2004) nurses' life satisfaction could influence their work performance. Also, research regarding life satisfaction connected to burnout is scarce and therefore there is a gap in the existing literature in connection to this topic. Since the level of life satisfaction has been shown to have a negative influence on burnout (see for example Lee et al., 2004), it was decided to be looked into in detail in this study to see if the same association could be assumed in the present study.

By including contributing factors on burnout like demographic variables, work-related factors, social support, personality factors, and life satisfaction, there is an improvement in the prediction of burnout. Also, by looking at two samples of nurses in two different countries, some important nation-based differences and similarities will be detected in relation to burnout in this sample. Furthermore, the variety of the measured factors possibly influencing burnout will make it possible to more reliably point out which factors might serve as protective factors in connection to burnout in this nation-based sample of emergency nurses and in light of this, give suggestions for burnout prevention.

1.2. HYPOTHESES

The purpose of this study was to look at the differences in burnout among Swedish and Hungarian nurses working at emergency wards in Sweden and Hungary, and to see to which

extent demographic variables, work-related factors, social support, personalit, and life satisfaction, could be related to burnout in the two samples. This research study was intended to make propositions in variables affecting burnout, and to establish more concretely which factors are significant determinates if and when nurses are experiencing burnout. Also, this study intended to look into if some of the factors might serve as protective factors in burnout, in these nation-based samples of nurses and to give suggestions for burnout prevention. With these purposes in mind, the following hypotheses were checked in this study:

H 1. Since there are differences in the hospital organization, the hospital management, the hospital equipment etc. between Hungarian and Swedish hospitals, where Hungary is suffering from a deterioration in the hospitals policy-making, financing, management, service structure, patient's rights etc. (Piko, 1999), it is expected that these differences in hospital conditions between the two countries will contribute to higher burnout in the Hungarian nurses than in the Swedish ones.

H 2. This study will look at how the nine different work-related stress factors will be related to burnout in Hungary and Sweden. It is expected that conflicts with the doctors, relationships with the patients, relationship with the patient's relatives, workload and stress related to tasks will result in higher stress for the Hungarian nurses and give higher burnout scores for the Hungarian nurses in relation to these factors. On the other hand, death and dying, problems with the colleagues, work and private life, being unprepared and feeling inexperienced will result in higher stress for the Swedish nurses and give higher burnout scores for the Swedish nurses in relation to these factors.

H 3. Life satisfaction will be investigated in this study and the differences in life satisfaction scores will be expected to be positively related to burnout. Since it has been shown that life satisfaction is higher in Sweden than in Hungary (Veenhoven, 2008), it is expected that higher life satisfaction scores will be found in this Swedish sample, and that this will be related to lower burnout scores for the Swedish nurses. Thus, it is anticipated that life satisfaction will serve as a protective factor for the Swedish nurses.

H 4. The relationship between personality and burnout will be investigated in this study and more specifically, psychological immunity (as the personality factor) will be expected to have an effect on burnout. Since the psychological immunity has been shown to be higher in

Sweden than in Hungary (Olah, Nagy & Toth, 2009), it is anticipated that the psychological immunity for these Swedish nurses will be higher. It is also expected that the higher psychological immunity in the Swedish sample will serve as a protective factor against burnout and thus will give lower burnout scores for the Swedish nurses in relation to this.

H 5. In this study social support will be expected to serve as a protective factor for the Hungarian nurses. It is anticipated that the Hungarian nurses will be married or in a relationship to a higher degree than the Swedish nurses and thus gain more social support from a husband or partner. This higher degree of partner support, resulting from being in a relationship, will then be expected to be related to lower burnout in the Hungarian nurses.

H 6. Across the two samples it will be looked at which factors contribute to higher burnout. Thus, it will be investigated whether lower levels of work stress, higher life satisfaction, higher psychological immunity, or higher levels of social support will serve as the most protective factors against burnout, across the two samples.

H 7. In this study the following variables will also be looked into and connected to burnout: age, marital status, number of children, educational level, number of years working as a nurse, and number of hours worked per week. These variables will be looked into because all of them are expected to have an influence on burnout: lower age, not being married, having no children, lower educational level, less years of working as a nurse, and more hours worked per week will be assumed to have a negative influence on burnout scores across the two samples.

2. LITERATURE REVIEW

2.1. THE THEORY OF STRESS

According to Dantzer (2001) significant attention has been paid to the relationship of emotions to health. Generally, positive emotions have been connected to positive health outcomes and negative emotions have been connected to negative health outcomes. A great amount of research has been and is being dedicated to the connection between physical health and a person's mental state.

Which role psychological factors play in illness can be dated back to the 20th century and the works of Walter Cannon (Cannon, 1932, in Dantzer, 2001) and Hans Selye (Selye, 1936, in Selye, 1976; Selye, 1937). It was the work of Cannon and Selye, and their experiments with animal's physiological reactions to stress, which has given the world the terminology of "stress". The physiological studies performed by Selye and Cannon are of great importance, since these studies were the first of its kinds to show that an emotion or mental state is an experience which should not only be connected to the psychological field but that emotions also have an affect on the body which might give changes in the body itself. This then lead researchers to propose that physiological responses associated with emotions are mediator mechanisms in the way that unsettled conflicts have a direct affect on the health. Researchers in the area of psychosomatics got the biological answer they had been looking for, in a chain of biological explanations, which said that: psychological distress gives a continual neuroendocrine activation, which gives changes in specific organs, which gives changes in the body, and in the end which leads to a certain pathology. Selye's and Cannon's research had investigated the glands in our body and looked at which hormones these glands secrete. However, now we know that the brain is not just a passive border between our environment and our inner selves, and today's research has shown how emotions are evoked, and which areas of the brain and which neurotransmitters are responsible for the stress response (Dantzer, 2001).

Selye talked and wrote to a high degree about which role emotions play in the stress response and the importance of stress to problems in our lives, however he was not a psychologist and he did not conduct any research in this area. In the 1960's and the 1970's the stress

researchers were still focusing on the stimulus-response area, i.e., that a person's response to a stimulus comes from the type of that stimulus. Which means that the person is not only reacting but it is acting on its own terms. Still at this time, research connected to stress was not embracing the idea of separating between reaction and action. This situation was unchanged until research started to look at the many ways a person is confronting stress. A researcher connected to this kind of research was John Mason, since he was the first to look into this area (Dantzer, 2001). Mason suggested that the unspecified reaction to stress comes from the arising of emotions which a person is experiencing when dealing with a problem (Mason, 1971). This means that it is the novelty of a situation which gives the non-specific response to stress and not the need to go back to homeostasis. Today we know that emotions and stress have an effect on our health through different pathways which are either sociobehavioural, cognitive or biological. Researchers like Selye, Cannon and Mason have contributed to the early works of this knowledge and they were the ones who started looking into this important area of psychology and physiology (Dantzer, 2001).

2.2. WORK STRESS AND HEALTH

According to Allen & Mellor (2002) occupational stress or work stress is a prevalent problem in a variety of workplaces. It contributes to reduced employee health, physically, mentally, and emotionally and also contributes to a higher level of absenteeism among workers (Farrington, 1995). Jex & Beehr (1991) defined work stressors as antecedent circumstances at a person's workplace or within the organization itself which call for well accustomed reactions by the worker. Thus, according to these authors both the environment and the person's reaction have to be taken into consideration to be able to understand the concept of work stress. Lazarus & Folkman (1984, in Chang, Daly, Hancock, Bidewell, Johnson et al., 2006) defined stress as something which is only being experienced in situations which are evaluated as being greater than a person's resources to deal with them. Consequently, someone could understand extra working responsibilities as something threatening and another person could look upon these additional responsibilities as challenging.

Kompier & Cooper (1999, in Bradley & Cartwright, 2002) stated that work stress is well-known around the world to be a relevant topic regarding the health and safety of employees. Geurts & Grundemann (1999, in Bradley & Cartwright, 2002) conducted a research in 15

different countries in Europe and they found that 57% of the workers stated that their job had a negative influence on their health and 28% of the workers said that their jobs were putting their health and safety in the risk zone. Sutherland & Cooper (1992, in Mackintosh, 2007) has found seven main factors connected to work stress, which can be applied to many different workplaces: work related factors, role stress, relationships at work, career stress, structure of the workplace or the organization, and the relationship between home and work life.

According to researchers it is important to look at the individual processes when looking into the area of stress and not only at the situational variables (see for example Dewe, 1992; Lazarus, 1991; Newton, 1989). Dewe (1997) conducted a research which looked into the individual processes, which are the essence of the experience of stress. In this research he argued that the stimulus-response model, which has been essential in the origin of work stress theories, might not be enough for a complete explanation of the work stress phenomenon. The idea that conditions at work can generate stress is well-known, however it might not be enough to explain the whole picture related to work stress and stress in general. To be able to explain the nature of stress in a better way it is important to look at the transaction between the work environment and the person. It is this transactional process which connects the environment and the person, and this approach gives a different explanation to the understanding of the theory of stress.

According to Dewe (1997) the transactional explanation of stress is looking on stress in a relational way. Thus, it emphasizes that stress is not only within the person or only within the environment but in the combination between these two factors. The stress itself occurs when the hassles from the environment surpass the resources a person has available within him- or herself. There is a moment of judgment involved in this process, which involves the environment as well as the person, which entail two appraisal processes: the primary appraisal and the secondary appraisal. According to Folkman (1982) the primary appraisal gives a reason for the stress encounter and the person assesses the interaction with the stressful situation as harmful, threatening or as challenging. The secondary appraisal is connected to how to solve the stressful situation and this is the stage where the person is deciding which coping resources to use to be able to cope with the stressful situation. Both the primary and the secondary appraisal are working in an interconnected way with each other and both are equally important in an encounter with a stressful situation. Thus, according to Dewe (1997) it

is important to look at the transaction between the environment and the person when conducting research about work stress and this is what the transactional model offers.

According to Chang, Daly, Hancock, Bidewell, Johnson et al. (2006) there is today a general agreement among researchers that work-related stress has a negative affect on the health of employees. Research has been especially interested in looking into the effects of stress for the health care workers and then particularly the health effects for nurses (Cox, Griffiths & Cox, 1996, in Chang, Bidewell, Huntington, Daly, Johnson et al.; Lambert & Lambert, 2001). There has been extensive research conducted about the effects of stress on the health and well-being of nurses (see for example Burnard, Edwards, Fothergill, Hannigan & Coyle 2000; de Rijk, Le Blanc, Schaufeli & de Jonge, 1998; Edwards, Hannigan, Fothergill & Burnard, 2002; Edwards & Burnard, 2003; Hannigan, Edwards, Coyle, Fothergill & Burnard, 2000; Lambert, Lambert, Itano, Inouye, Kim, et al., 2004) and these researches have found that stress connected to work contributes to decreasing working life quality, development of psychiatric complaints, and the occurrence of physical illnesses for nurses. According to Allen & Mellor (2002) nurses have especially been recognized as being prone to suffer from poor health outcomes due to work stress because of the nature of their jobs. Nurses have to care for others, they have high organizational expectations, and they are also experiencing high levels of expectations from their patients. This is the reason why work-related stress, like for example burnout, has especially been related to nurses and why researchers have especially investigated nurses and their levels of burnout.

Many researchers have identified factors in the working environment which have been associated with stress and poorer health for nurses. These identified working factors have for example been a lack of control over one's work, high working demands, lack of support in the working interactions, to deal with death and dying, lack of important health care resources, and extreme workload. Environmental factors which have been found to have a negative affect on nurses' stress and health have for example been unhelpful family members, novelty of situations, a feeling of not giving the appropriate level of care, time pressure, negative relationships with doctors, colleagues and supervisors, and handling the balance between work and family. Other factors which have been found to influence the nurses stress level and health have for example been social support, self-esteem, and being married (see for example Baba, Galperin & Lituchy, 1999; Carson, Brown, Fagin, Leary & Barlett, 1996; Chapman, 1993; Cheng, Kawachi, Coakley, Schartz, Colditz, et al., 2000; Decker, 1997; Fong, 1993;

Foxall, Zimmerman, Standley & Beneet, 1990; Hatcher & Laschinger, 1996; Healy & McKay, 1999; Lally & Pearce, 1996; Lee & Henderson, 1996; Magennis, Slevin & Cunningham, 1999; McGibbon, 1997; Melchior, Bours, Schmitz & Wittrichet, 1997; Murray, 1998; Ryan & Quayle, 1999; Snape & Cavanagh, 1993; Snelgrove, 1998; Tsai, 1993; van Wijik, 1997; Watson & Feld, 1996; Webster & Hackett, 1999).

Kalichman, Gueritault-Chalvin & Demi (2000) looked at which different sources of stress can be detected for nurses and how they are coping with these stress factors. For the researchers to be able to identify a wide variety of situations in the nurse's work situations which are causing stress for them, the nurses were asked to name a situation which has been the most stressful situation for them in their work place. A majority of the nurses (64%) stated that patient care is the situation causing most of the stress for them in their job. When the researchers looked at subgroups of stress it was shown that 20% of the nurses stated that personnel factors were causing most of the stress in their job and 20% of the nurses stated that challenging patients were causing most of the stress in their job. Looking at the most commonly recognized specific source of stress for the nurses within the subcategories, staff conflicts were mentioned with 11 % and next it was to deal with resistant patients with 7%. As a summary the researchers stated that they found 32 categories of nurses experiencing work-related stress. Situational reasons for stress and the personnel characteristics of the working environment were mentioned by more than one third of all the nurses.

Lambert, Lambert, Itano, Inouye, Kim, et al. (2004) conducted a research with 1554 nurses in four different countries: USA, Thailand, South Korea, and Japan. The results accounted for by the researchers were cross cultural comparisons between the five different countries. The highest levels of stress caused by all the workplace stressors were workload and dealing with death/dying. This result could be found in all the countries. When it comes to mental and physical health, all the nurses had approximately same scores for these two variables except for nurses working in Thailand. For the nurses in Thailand, their scores for mental health were much lower than for the nurses working in South Korea, Japan, and USA. The researchers conducted a multiple regression analysis for all the four countries to see how all the independent variables could predict physical health, the independent variables being workplace stressors, coping and demographic variables. It was interesting to see that the nurses in all the four different countries stated that workplace stressors had the highest affect on physical health, and more specifically that workload and death/dying were these workplace

stressors. According to the researchers, this finding propose that it does not matter which culture or country the nurse comes from they still state that the quantity of work which they should do and the emotional factors related to death/dying is causing high amounts of stress for them. Lambert et al. (op. cit.) states that it is not unexpected that it is workload and death/dying which is causing the highest amounts of stress for the nurses in the USA, since other research has also found this to be true of western cultures (see for example Carson et al., 1996; Snape & Cavanagh, 1993; Fong, 1993; Cheng et al., 2000). Consequently, this study conducted by Lambert et al. (2004) gives support to the suggestion that nurses working in Asia are experiencing similar workplace stress like nurses working in western cultures.

As Lambert et al. (2004) described above, the nurses from Thailand scored much lower on mental health than did nurses in USA, South Korea, and Japan. The researchers argued that this result might be due to a possible disharmony between the doctors and the nurses. The researchers did show in their research that lower scores on mental health could be predicted by conflict with doctors in the Thai sample. The nurses in Thailand in Lambert et al.'s study (op. cit.) had a Baccalaureate diploma and because of this they probably had a way of sophisticated critical thinking and were assertive in their way of being. Due to these two factors there might have occurred conflicts between the doctors and nurses. When it comes to physical health the nurses from the four different countries reported different results. In Japan the nurses stated that workplace stressor, workload, the demographic variables, and the number of people in the household predicted physical health most significantly. This result proposes that higher workload together with all the extra duties which comes from home has an influence on the nurses' physical well-being. In the Japanese culture there is a trend that women are anticipated to be in charge of family members' wishes and desires (Shui, 1998). In South Korea the nurses stated that wanting social support, demographical variables, the possibility of leaving ones current job, predicted physical health most significantly. The fact that wanting social support was positively connected to physical health could be explained by the fact that when a nurse wants and gets physical or psychological support from someone else, her physical health and/or mental health can be improved (Chapman, 1993; Fong, 1993; Bourbonnais, Comeau & Vezina, 1999). Lambert et al. (2004) showed that the variable of the possibility of leaving one's current job could be negatively related to physical health in this sample. In Thailand the nurses stated that demographic variables, amount of people in the household, years working as a nurse and the level of income predicted physical health most significantly. The variables like amount of people in the household and years working as a

nurse were both negatively connected to positive physical health. In USA the nurses stated that workplace stressor, workload, demographic variables, the possibility of leaving one's current job, and the highest educational level predicted physical health most significantly. The variables workload and the possibility of leaving one's current job were both negatively connected to positive physical health. When looking at physical health in all the four countries, it can be seen that the nurses stated many similar variables as predictive of physical health. For example, Japanese and American nurses stated that workload was negatively predicting physical health. Japanese and Thai nurses stated that amount of people in the household was negatively predicting physical health. South Korean and American nurses stated that the possibility of leaving ones current job was negatively predicting physical health. According to Lambert et al. (op. cit.) the responsibilities of the nurses may be different in the different countries they looked at but despite of which country the nurses came from they still mentioned some comparable variables which predict physical health.

Lambert et al. (2004) also looked at mental health in their cross cultural comparison of nurses health related to different variables. In Japan the nurses stated that demographic variables, the possibility of leaving ones current job, workplace stressor, and lack of social support predicted mental health most significantly. All of these variables were shown to have a negative effect on mental health, thus, they all had a negative effect on the Japanese nurses positive mental health. In South Korea the nurses stated that demographic variables, age, the possibility of leaving ones current job, workplace stressors, and workload predicted mental health most significantly. It was shown that age could be positively connected to mental health. The average age in the nurses working in South Korea was 30.2 years and it was less than for the nurses in the other 3 countries. Thus, it was shown that lower age had a positive effect on the South Korean nurses' mental health. In Thailand the nurses stated that workplace stressors, conflict with doctors, lack of social support, demographic variables, the possibility of leaving one's current job, and wanting social support predicted mental health most significantly. Conflict with doctors, the possibility of leaving one's current job, and lack of social support was shown to have a negative effect on mental health. In the USA the nurses stated that workplace stressors, conflict with other nurses, lack of social support, workload, the demographic variables, and the possibility of leaving one's current job predicted mental health most significantly. When looking at mental health in all the four countries, it can be seen that the nurses stated many similar variables as predictive of mental health. For example, Japanese, Korean, Thai and American nurses all stated that the possibility of leaving ones

current job predicted mental health in a negative way. The variable lack of social support was mentioned by the Japanese, Thai and American nurses as predicting mental health in a negative way. Even though there seemed to be differences in the work roles for the Japanese, Thai, and American nurses, they seemed to show comparable factors predicting positive or negative mental health.

McGrath, Reid & Boore (2003) conducted a research with 171 nurses in Northern Ireland where the nurses had to specify the degree of stress certain work-related variables would cause them. The nurses reported that the variables being mostly stressful for them were not having enough time to carry out work assignments according to patients' wishes, sharing limited resources and services, meeting deadlines, and negative views about their work held by others were all sources of stress for the nurses. Variables which did not cause high levels of stress for the nurses were working with supplementary staff, being in direct contact with the patients, and being in direct contact with patient's relatives. It was interesting to see the low levels of nurses who stated that emotional demands and being in direct contact with patients were stressful for them. The nurses in this study gave an indication of that their work life was perceived as more stressful than their personal life. All together it can be said that the strongest predictor of work-related stress in this sample of nurses was a feeling of lack of personal accomplishment. However, the lack of autonomy was also shown to play an important role in the nurses' perception of stressful working variables. Most of the nurses in this sample stated that they were incapable of decision making and that they felt they did not have enough power to change the inadequate working environment. Some of the nurses also reported that they did not feel that their education was enough for their work and also other nurses reported that their workplace did not make use of their training, skills, and experiences.

Visser, Smets, Oort & de Haes (2003) carried out a research with Dutch nurses where they investigated the effects of job satisfaction on work stress. The most important result in their study was that job satisfaction had a protective effect on work stress and its harmful consequences. Another important finding in this study was that job stress and job satisfaction could be best managed by organizational factors instead of personal factors. What was surprising with this research was that this sample of Dutch nurses had high levels of job satisfaction even with fairly high stress levels. The researchers showed that personal variables (age, marital status, and having children) were not significantly associated with job satisfaction and stress levels. Also, the characteristics of the job could not be significantly

related to stress levels and job satisfaction. The nurses stress levels could be significantly predicted by their ideas of their conditions at work, where time pressure played a significant role for having negative results. Nurses experienced stress in relation to how much their work interfered with their private life and how much workload was making it impossible for them to perform their job according to one's values. The nurses in this sample reported that their job satisfaction was related to having good management and having enough resources. These researchers' study did not show that nurses emotional contacts with patients was the major source of stress for them and even though this variable was mentioned by the nurses as the mostly common stress factor, it was still not the one variable which caused stress in general for these nurses.

When it comes to research connected to work stress, burnout and nurses, there have been many studies conducted in identifying the difficult aspects of nurses' work and how the nurses' are coping with these demands. Work stress is recognized today as being present at a nurse workplace, especially after the early works of Michaels (1971) and Parkes (1980). These researchers recognized the impact of the work stress for nurses and also looked into its international occurrence (Macintosh, 2007). Looking at international studies about nurses and burnout, Allen et al. (2002) looked at Canadian hospital nurses and their workload, and found that heavy workloads predicted burnout. Allen et al. (op. cit) also looked at burnout in Australian nurses and found that burnout could be connected to hospital restructuring and the level of communication from administrators. Chang, Bidewell, Huntington, Daly, Johnson et al. (2007) conducted a research about nurses working in Japan, South Korea, Thailand, and America to see if nurses who are working in different countries were experiencing stress related to comparable sources at their workplaces. Some similarities were found across the countries, for example that nurses experienced stress from excessive workload, however there were also some dissimilarities between the countries. Garrosa, Moreno-Jimenez, Liang & Gonzalez (2006) looked into the work stress in Swedish nurses and he found that 80% of his sample of nurses were experiencing high or very high levels of work-related stress and these levels of stress could be connected to burnout in those nurses.

2.3. DEFINITION OF BURNOUT

According to Maslach (1982) burnout is more a result of negative work situations than of negative people. It is a reaction to persistent everyday work stress instead of stressors occurring occasionally. A very important characteristic of the burnout syndrome is a change in how a person looks at other people. There is a change taking place, from going to viewing people as something positive and caring to start viewing them as negative and uncaring. The person starts looking at other people in a cynical way and the person develops a negative view of herself as a worker and as a human being.

According to Alimoglu & Donmez (2005), burnout is recognized to be a lasting psychological reaction to chronic emotional and interpersonal stress factors at one's workplace. According to Maslach, Jackson & Leiter (1996) burnout is described as having three components: high emotional exhaustion (EE), high depersonalization (D) and low personal accomplishment (PA). The first component, emotional exhaustion dimension, stands for the fundamental individual stress aspect of burnout. This dimension explains feelings of being overextended and one's emotional and physical assets being used up. Extensive discussion has taken place as to whether emotional exhaustion is the fundamental characteristic of burnout. When looking at the second component, depersonalization, it stands for the interpersonal aspect of burnout. This dimension stands for a negative, uncaring, or exceptionally disconnected reaction to different parts of the work. The last component, lack of personal accomplishment, stands for the self-evaluation aspect of burnout. This dimension stands for a feeling of being incompetent at work, and feeling a lack of achievement and a lack of productivity at one's workplace.

According to Maslach, Schaufeli & Leiter (2001) the burnout syndrome is especially said to be a problem in caregiving professions and in service professions, since the main aspect of the job in these occupations is the relationship between the caregiving staff and the recipient of the caregiver's service. People working within health care settings, in particular nurses, are generally thought of as being at heightened risk for burnout and work stress. Looking at previous research, a low-to-moderate or a moderate-to-high level of burnout has been reported among nurses working in different nursing sectors (e.g., Barrett & Yates, 2002; Chen & McMurray, 2001; Stordeur, Vandenberghe & D'hoore, 1999).

Altun (2002) has pointed out that burnout is not an indicator of work stress per se. According to this idea, burnout is the final result of work stress which has not been dealt with. The nursing profession is suffering when there is too much workload and when there are too many demands, which leads to ideals clashing with the harsh reality. The disappointment and unsuccessful personal expectations, which are the results of the workload and demands, are making it possible for burnout to occur in nurses. Burnout is an incapacitating psychological state resulting from unrelieved work stress and it leads to used up energy reserves, a decreased resistance to illness, a heightened discontent and pessimism, increased absence from work and ineffectiveness at one's workplace. Symptoms of burnout might include feelings of physical and mental exhaustion, feelings of being helpless and hopeless, decreased morale together with a decreased self-esteem, and finally repeated illness.

2.3.1. Contradictory views on Burnout

Demerouti, Verbeke & Bakker (2005) state that there is a general conformity in the literature about burnout as a multidimensional concept. As it has been mentioned before, burnout is made up of three central dimensions, emotional exhaustion, depersonalization and a lack of personal accomplishment. According to Maslach, Jackson & Leiter (1996) emotional exhaustion stands for a reduction of energy or an exhaustion of one's emotional assets and this dimension is made up by fatigue occurring mentally, emotionally, and physically. Depersonalization stands for a negative and cynical approach in relation to patients, and is said to be a dysfunctional type of disconnected concern. The third and last dimension, a lack of personal accomplishment, stands for an inclination to assess one's work in a negative way, and this dimension also comes with feelings of not being effective enough and having low self-esteem.

According to Demerouti et al. (2005) there is a conflicting understanding of the burnout concept and its dimensions. This means that researchers and theorists have not reached a fully agreement about the burnout dimensions and how they are connected to each other, how they appear, and what they truly mean. Thus, the nomological side of the burnout is not clearly defined and three critical points have been brought forward in relation to this:

Firstly, the majority of researchers (see for example, Maslach, 1993; Maslach et al., 1996; Schaufeli & Enzmann, 1998, in Sundin, Hochwälder, Bildt, & Liesspers, 2007) look at burnout

as condition made up of autonomous dimensions which all have a different association with previous circumstances and consequences. For example, the emotional exhaustion dimension from this point of view is an instant consequence of the work demands but depersonalization and reduced personal accomplishment are foremost consequences of a lack of work resources (see for example Bakker, Demerouti, Taris, Schaufeli & Schreurs, 2003; Demerouti, Bakker, Nachreiner & Schaufeli, 2001; Lee & Ashforth, 1996). Thus, nurses might experience merely one of the burnout dimensions depending on what the nurse's current work circumstances are.

Secondly, Maslach et al. (1996) look upon burnout as a theory on a continuum and not as a dichotomous theory. As such, if a nurse has a high level of burnout she is experiencing high emotional exhaustion and depersonalization, and low personal accomplishment. On the other hand if she has a low level of burnout she is experiencing low emotional exhaustion and depersonalization, and high personal accomplishment. Connected to this, Maslach et al. (op. cit.) are describing a nurse with a moderate level of burnout as having average scores on all the three dimensions of the burnout. However, according to Demerouti et al. (2005) many cases of the burnout dimensions are not specified. For example, how should a researcher interpret a nurse who scores high on emotional exhaustion but low on depersonalization and personal accomplishment? It is important to clarify burnout when doing a research as to explain that burnout exists when emotional exhaustion and depersonalization is high, and when personal accomplishment is low.

Thirdly, Cordes & Dougherty (1993), Maslach et al. (1996), and Wright & Cropanzano (1998) have suggested that researchers should look upon burnout as an on-going reduction of energy where nurses experiencing emotional exhaustion use the strategy of depersonalization to preserve their own resources. Maslach (1993) explained depersonalization as a dysfunctional coping mechanism which for the nurse worsens the relationship with her patients and slowly lessens her sense of personal accomplishment. Muraven, Tice & Baumeister (1998) speculated that burnout is resulting in weakening of the ego, which can be seen in a person's incapability to self-regulate by using her intelligence. Thus, a nurse's incapability to self-regulate may give an explanation to why nurses choose to depersonalize when they are emotionally exhausted. Meyerson (1994) has considered burnout to occur differently by nurses depending on how the organization or the workplace of the nurse looks like. Thus, with this theory it is suggested that burnout can be self-regulated by the nurse experiencing it through the means of for example coping.

Demerouti et al. (2005) is also arguing that burnout must not merely be an outcome of three dimensions but also behaviours and attitudes of the nurses should be incorporated. What comes out from an approach like this would be that external and personal circumstances may cause burnout which might be different in the dimensions and for the person who is experiencing the burnout. It is very important that burnout is understood in its total and not only by looking at its three parts separately. If one is only looking at the parts and not the whole then we could only look at emotional exhaustion or depersonalization and not burnout as the outcome. The specific outline of a nurse's burnout shows the circumstances which have lead up to burnout and the specific outcomes of these circumstances, and not merely of how a nurse is experiencing the burnout. From this point of view it can be said that the different patterns of burnout should be related in a different way to different outcomes.

2.4. TWO MODELS OF BURNOUT

Schaufeli, Maslach & Marek (1993, in Halbesleben & Buckley, 2004) have been looking for more theory-driven research in burnout. They felt that a complete theory of burnout had not been developed at that time and that there was a general need of theoretical models of burnout which would incorporate the different research being done about burnout. Schaufeli at al. (op. cit.) opened up the eyes among researchers for an important aspect of burnout research and after their suggestion; researchers started paying attention to developing and testing different models of burnout (see for example Cordes & Dougherty, 1993; Lee & Ashforth, 1993; Leiter, 1993, in Halbesleben & Buckley, 2004; Maslach, 1993, in Halbesleben & Buckley, 2004). Today there are known to be two major models of burnout, which will be briefly described below.

2.4.1. The Conservation of Resources Model (COR)

According to Hobfoll (1988, in Halbesleben & Buckley, 2004; 1989, 1998, in Halbesleben & Buckley, 2004) and Hobfoll & Freedy (1993, in Halbesleben & Buckley, 2004), the conservation of resources model (COR) of burnout says that burnout and stress takes place when people recognize a threat in something which they put value into (resources). The threat itself may for example originate from work-related demands, losing work-related resources, or

inadequate return of resources from colleagues and supervisors. According to Hobfoll (2001) the first threat to a person's resources is viewed as a stressor, however it is the continuation of the threat to a person's resources which might lead to burnout. It is especially a vast amount of resources invested in a person's work which might work as continued stress and lead to burnout. Thus, the COR model of burnout is looking beyond the concept of stressing order to understand the way in which chronic stress might develop into the burnout syndrome.

According to Leiter (1993) a main idea behind the COR model is the idea that job demands and job resources are predicting the burnout and the burnout's three factors in different ways. A reason for this is partly because of the different psychological experiences connected to the concepts of loss and gain. In general it is said that individuals are trying harder to avoid loss than achieving gains, which means that demands will to a higher degree lead to burnout than resources are likely to protect against burnout. Lee & Ashforth (1996) conducted a meta-analysis of burnout which verifies the above mentioned idea. They found that factors connected to job demands, like for example work overload, were more significantly related to emotional exhaustion and burnout than resource factors, like for example social support. These researchers also found that demand factors were less connected to depersonalization and personal accomplishment, and that the resource factors were more significantly related to depersonalization and personal accomplishment.

Also other researchers (see for example Brotheridge & Lee, 2002) have used the COR model to look into the phenomenon of burnout and their studies have supported the COR model. Halbesleben & Bowler (2005, in Halbesleben & Buckley, 2004) have for example also used the COR model of burnout in order to expand the connection between burnout and job performance. These two researchers said that the best way to understand the connection between burnout and job performance is to look at the investment in the resources. When doing this, the researchers demonstrated that nurses being more exhausted showed decreased job performance, however these nurses were more probable to take part in organizational collegial behaviours. This finding proposes that these nurses invested fewer resources into their jobs and while they distanced themselves from the job demands, they were focusing their resources in the direction of beneficial collegial support. Halbesleben & Bowler (op. cit.) argued that the nurses use of collegial support was done in order for them to increase their feelings of social support and thus to decrease their risk of burnout.

Halbesleben & Buckley (2004) argued that the COR model of burnout has a clear strength in that it is specifying the underlying processes about the investment of resources and thus the model can tell us how burnout is leading to for example a decreased job performance and workplace dedication. Thus, the COR model is giving both the causes and the consequences of burnout.

2.4.2. The Job Demands – Resources Model (JD-R)

Demerouti, Bakker, Nachreiner & Schaufeli (2001) suggested that burnout is the outcome of two types of job characteristics, job demands and job resources. The job demands – resources model (JD-R) is building upon the conservation of resources model and it is explaining job demands as those characteristics of the job which involves effort, and the result of these efforts can be burnout. Job resources, on the other hand, are described as attributes of the job which are helping to achieve one's goals at work, lessen the job demands, or give individual growth. Demerouti et al. (op. cit.) argued that job demands can be connected to emotional exhaustion and job resources can be connected to depersonalization.

According to Halbesleben & Buckley (2004), when talking about the JD-R model of burnout it is important to mention that it is different from the demands-control model (DCM) of stress developed by Karasek (1979). The model of Karasek is saying that the job demands of a person are interacting with the perceived control the person has over the job, thus saying that there is a clear interaction between control and job demands. One problem of the DCM model has been that researchers have had a difficult job in proving the interaction between job demands and control empirically in order to predict burnout (see for example Carayon, 1993; Jones & Fletcher, 1996, in Halbesleben & Buckley, 2004). If one looks at the JD-R model of burnout in contrast to the DCM model, the first one argues that demands and resources are playing an additive main effect in the prediction of burnout and it does not explain it by the interaction of these two variables (Halbesleben & Buckley, 2004).

Schaufeli & Bakker (2004) conducted a research with almost 1700 health care workers and looked at the JD-R model and its connection to burnout. They found that that depersonalization was connected to job resources (just like Demerouti et al., 2001) but that both job demands and job resources were connected to emotional exhaustion (this is not in

line with the results of Demerouti et al., 2001, who found that only job demands was related to emotional exhaustion). Bakker, Demerouti & Verbeke (2004) established similar results of job performance as Schaufeli and Bakker (2004), which might imply that the JD-R model might have to be somewhat refined and reassessed. However, Schaufeli and Bakker (op. cit.) argued that job demands and job resources cannot be independent of each other. Job demands can be explained as things which tap into job resources and job resources can be explained as those tools people are using to handle job demands.

2.5. NURSES AND BURNOUT

2.5.1. Burnout in nurses

According to Tummers, Janssen, Landeweerd & Houkes (2001) health care workers are usually looked upon as a high risk group for burnout and work stress, and especially nurses have been studied throughout the years due to their high probability of falling into this group. Chen & McMurry (2001), and Barrett & Yates (2002) have all reported low-to-moderate or moderate-to-high levels of burnout for nurses working in different wards.

An interesting study was conducted by Alimoglu & Donmez (2005), with 149 nurses in Turkey. They looked at the exposure to daylight for at least three hours per day in connection to burnout and this amount of exposure appeared to decrease work stress and job dissatisfaction. They also thought that an exposure to daylight would have a positive effect on burnout among the nurses, since daylight has been shown to have a positive effect on mood disorders. When it comes to burnout levels they found that nurses had moderate levels of emotional exhaustion, low levels of depersonalization and high levels of personal accomplishment. When it comes to burnout and exposure to daylight, they did not find any direct association, but they did find an indirect association through the effects of work stress and job satisfaction on burnout. The researchers also looked at other variables in relation to burnout levels and found that younger age could be connected to emotional exhaustion, depersonalization and personal accomplishment but the level of education could only be connected to emotional exhaustion.

Brewer & Shapard (2004) conducted a research where they looked at the connection between age and years of experience related to burnout in nurses. These authors chose to look into this area since there have not been reliable findings related to this and since it has not been shown consistently that age or years of experience can be connected to burnout. The researchers conducted a meta-analysis which consisted of 34 studies. The results showed a negative relationship between age and burnout, and more specifically it was shown that older nurses reported less burnout than younger nurses. Further, the results also showed a negative relationship between years of experience and burnout, and more specifically it was shown that nurses who had worked at their current workplace for a longer period reported less burnout than nurses who had worked at their current workplace for a shorter period of time. All and all, Brewer & Shapard (op. cit.) showed that age had a small but significant negative connection to burnout and years of experience had a small but significant negative connection to burnout in the United States.

Chang et al. (2006) took part in an international project which looked at role stress in nurses in Japan, Thailand, South Korea, United States, New Zealand, and Australia. Part of their results for the Australian nurses was reported in a separate article and the results of this study can be found below. In the international project mentioned above, 320 Australian registered nurses took part. More precisely, the researchers wanted to look at the connection between demographical factors, workplace stressors, coping mechanisms, physical and mental health for the 320 Australian nurses. When it came to workplace stress, the researchers found that the most frequent cause of this kind of stress was workload. After this came death and dying, conflict with doctors and other nurses, and not being sure about the treatment. Also Lambert, Lambert & Ito's (2004) cross-cultural research found that workload, and death and dying were the most frequent causes for stress among nurses. In Chang et al's (2006) study the variable which caused the least stress for the nurses' were perceived lack of support and insufficient preparation. Healy & McKay (2000) and Tyler & Cushway (1992, 1995) have also found similar results. Looking at physical health then Chang et al. (2006) showed that it was negatively connected to years working as a nurse, death and dying among patients, conflict with doctors and nurses, workload, and not being sure about the treatment. When it comes to age, Chang et al. (op. cit.) reported that this was the only significant factor which had a negative effect on physical health. In this research they could not predict role stress to be negatively influencing the nurse's physical health. Chang et al. (op. cit.) also found that higher levels of workload increased the probability of negative physical health outcomes and

burnout. When it comes to mental health, not having support, high workload, and working at the ward for only a short time were all affecting mental health in a negative way and resulted in poorer mental health for the nurses in this sample. As part of the international project, Chang et al. (op. cit.) also looked at the difference between newly graduated nurses and nurses with more working experience in Australian nurses. The researchers found that newly graduated nurses experienced higher role stress than other nurses. These findings have also been reported by Chang & Hancock (2003), and Charnley (1999), where the first ones have reported higher role ambiguity among newly graduated nurses which might be the reason why these nurses report higher levels of role stress.

Garrosa et al. (2006) conducted a research where they wanted to look at to what extent socio-demographic variables, work related variables, and personality (more specifically hardiness) could be connected to burnout. The researchers wanted to see each of these factors associations with the three dimensions of the burnout syndrome, emotional exhaustion, depersonalization and lack of personal accomplishment. Their study population was 473 nurses from three different hospitals in Spain. The reason why the researchers were interested in looking at the socio-demographic variables, the work related variables, and personality was that according to them burnout has mainly been connected to work related factors or work stressors (see for example Coffey, 1999; Jamal & Baba, 2000; Ogus, 1992; Sundin, Hochwlder, Bildt & Lisspers, 2006; Van Wijk, 1997). Garrosa et al. (2006) found in their study that younger nurses had higher levels of burnout than nurses that were older than 30 or 40 years. Brewer & Shapard (2004) have also reported similar findings in their meta-analysis, about age and work experience. Further, Garrosa et al. (2006) showed the main effects of work stressors after the personality variable and the socio-demographic variables were taken into consideration. Approximately 20% of the three dimensions of the burnout were explained by the work stressors. It was the emotional exhaustion dimension, with 26%, which had the main amount of explained variance. Other researchers have also found emotional exhaustion to be related to work stress factors (see for example Cherniss, 1980, in Garrosa, Moreno-Jimenez Liang & Gonzalez, 2006; Lindblom, Linton, Fedeli & Bryngelsson, 2006; Maslach & Jackson, 1981; Posig & Kickul, 2003). Emotional exhaustion and depersonalization have also been significantly related to workload and negative interactions; however pain and death have been related in a negative way to the above mentioned two dimensions of burnout. Piko (2006) and Posig & Kickul (2003) have for example also reported the important connection between negative interactions and burnout. Garrosa et al. (2006) stated that when looking at

the third dimension of the burnout syndrome, a lack of personal accomplishment, the researchers have not been able to find significant associations between this dimension and work overload. Other factors have, on the other hand, been positively related to lack of personal accomplishment, like for example negative interactions and role ambiguity. Garrosa et al. (op. cit.) concluded that all socio-demographic variables, job stressors, and personality could significantly predict burnout, since all of them played an explicit role in the burnout process.

Lee & Akhtar (2007) conducted a research with 2267 nurses in Hong Kong. The researchers performed a regression analysis which showed four different kinds of effects of job burnout.

1. Job demands, no professional acknowledgement, professional insecurity, and self-efficacy had a significant effect on emotional exhaustion, depersonalization, and personal accomplishment.
2. Job demands, professional acknowledgement, interpersonal conflicts, and conflicts within the family had a significant effect on emotional exhaustion and depersonalization.
3. Job demands and responsibilities of the patients seemed to have a positive effect on personal accomplishment but they also seemed to enhance emotional exhaustion. Thus, these variables seemed to have a double effect on burnout.
4. Role conflict was proven to have an effect on depersonalization. Job control and support from colleagues demonstrated a significant effect on personal accomplishment.
5. Lastly, support from supervisors showed a decreased effect on emotional exhaustion.

In their research, Lee and Akhtar (op. cit.) showed that job demands was the variable which caused most of the stress for the nurses, having a significant effect on emotional exhaustion and depersonalization. Job demands also had a significant effect on personal accomplishment which shows that the nurses felt that this variable both exhausted them and motivated them. Role conflict only had a significant effect on depersonalization and more precisely it was shown that lack of resources, confusing role expectations, and redundant work were the variables which would make the nurses callous and negative towards their patients.

In the research conducted by Lee & Akhtar (2007) it was shown that all the different variables had a significant effect on burnout, sometimes on one and sometimes on more of the three dimensions of the burnout syndrome. A lack of professional acknowledgement and professional insecurity were shown to be two significant variables of stress experience for the nurses. Both of these variables had a significant effect on emotional exhaustion,

depersonalization, and personal accomplishment. Conflicts with colleagues and with family members, and responsibilities for the patients had significant outcome on nurses' emotional exhaustion and depersonalization. The reason why these variables did not show significant consequences on the nurses' personal accomplishment could be that their intensity was low. It was shown that responsibilities over the patients care increased nurses' emotional exhaustion and personal accomplishment all at the same time. This might suggest that these variables, which make up the foundation of the nurses work, could work as emotionally draining but also personally rewarding the nurses. Strain between the nurses, her colleagues, and her patients were shown to cause stress for the nurses. The research confirmed that these two variables had different effects on the burnout, where weak collegial relationships had small effects on emotional exhaustion and weak patient relationships had strong effects on depersonalization.

van der Shoot, Ogińska & Estryn-Behar (2003) measured the burnout in 10 different countries in their study and they showed that the burnout in nurses were quite high in all the 10 countries that took part in the research. The lowest scores in burnout were obtained for the Dutch nurses. However, this result was explained by the fact that the mean hours of work was the lowest in the Netherlands, 25 hours per week, which can be compared to almost 39 hours per week in Poland and 38 hours per week in Slovakia. The researchers found that an increase in motivation and a proneness to over-commit helped to increase the burnout scores in nurses. Also, as the levels of burnout increased in the samples of nurses, the nurses were more prone to leave their current workplaces.

Country	Total nurses	Burnout nurses
Belgium	4, 257	4, 195
Germany	3, 565	3, 520
Finland	3, 970	3, 926
France	5, 376	5, 330
United Kingdom	2, 578	2, 537
Italy	5, 645	5, 351
Norway	2, 733	2, 659
Netherlands	4, 019	3, 985
Poland	3, 263	3, 108
Slovakia	3, 396	3, 187

Table 1. Amount of nurses being burned out, from the total amount of nurses in the research, in 10 European countries (van der Shoot et al., 2003).

Demir, Ulusoy & Ulusoy (2003) carried out a research to look at the burnout levels in 333 Turkish nurses and to look at which factors were influencing the nurses' burnout outside their workplaces. The researchers' hypothesis was that the conditions at the nurse's workplace and their private lives would not influence the nurses' burnout levels. When it comes to personal accomplishment the researchers found that the total length of work increased the levels of this burnout dimension and they also found that highest levels of personal accomplishment could be found among those nurses who had 16 or more years of nursing experience. There has been a general opinion among researchers that new nurses have generally higher levels of burnout since they cannot cope with stress to the same degree as older nurses (see for example Bryant, 1994). Demir (1999) has for example shown that the levels of depersonalization and personal accomplishment declined when nurses experience decreased. Also, Ergin (1993, in Demir, Ulusoy & Ulusoy, 2003) showed that the level of burnout increased in younger nurses with less working experience in comparison to older nurses with more working experience. In addition, Oehler, Davidson, Starr & Lee (1991) demonstrated that newly recruited and young nurses working in the intensive care unit obtained higher levels of burnout more quickly than nurses who had been working there for a longer time. Lastly, also Stewart & Arklie (1994) confirmed that nurses with less working experience were suffering from increased burnout levels. Thus, it can be said that according to these results, burnout is decreasing as the working experience is increasing.

In the study conducted by Demir et al. (2003) it was found that nurse's levels of emotional exhaustion were negatively influenced by not having appropriate equipment, the hospital not being clean, and by the order in the work environment. Also other researchers have shown that a lack of equipment has a negative effect on the quality of work performed by the nurses, which is reducing work satisfaction among nurses, and that the lack of equipment is increasing burnout levels (see for example Beemsterboer & Baum, 1984; Demir, 1999).

Other factors which have been shown to have an affect on burnout levels have for example been workplace roles and tasks, where nurses who feel that it is not clear what kind of role they have at their workplace and nurses who are performing jobs which is not part of their duties are reporting increased levels of burnout (see for example Stewart & Arklie, 1994).

Other factors related to burnout have been decreased personnel and Walcott & Ervin (1992) have for example shown that not having enough personnel in hospitals was increasing the levels of workload and was a source of stress for nurses. These researchers have also shown that having to work with a decreased amount of colleague nurses was one of the most stressful experiences in their nursing sample, and thus that the amount of nurses working in a hospital and burnout has an inverse relationship. According to Beaver, Sharp & Cotsonis (1986) another variable related to burnout has been the number of children a nurse has. These researchers found that the more children a nurse had, the higher her level of emotional exhaustion and personal accomplishment would be. They also mentioned that the relationship between number of children and personal accomplishment was an inverse one.

Burke (2003) conducted a research looking at the workload of nurses related to the patient-nurse ratio and if restructuring of the hospital had an impact on this ratio. The research also looked into whether the patient-nurse ratio had an impact on work satisfaction, psychological well-being, and nurses' ideas of the hospital's functioning and effectiveness. This study demonstrated that while the hospital underwent restructuring, alterations of the patient-nurse ratio were frequent and in the majority of cases the alterations were an increase in patient-nurse ratio. Looking at nurses job satisfaction, workload, and well-being it was shown that for the nurses with increased patient-nurse ratios they reported less satisfaction with work, increased workloads, decreased psychological well-being, and poorer organizational work. It was interesting to note that some nurses who had decreased patient-nurse ratios still accounted for decreased positive results. The researcher argued that possibly it does not matter which change takes place at the hospital, the nurses were experiencing them as negative ones. It looked like the decrease in patient- nurse ratios were regularly connected with an increase in supervision duties. Consequently, a decrease in patient-nurse ratios was seen as something positive by the majority of nurses; however the accumulation of supervisory duties while the hospital was being restructured was seen as something negative by a number of nurses, since the supervision produced extra stress for the nurses experiencing this supervisory duty.

Kalliath & Morris (2002) conducted a research in nurses related to burnout and different levels of job satisfaction, looking more precisely at which effect the different levels of job satisfaction had on burnout. The researchers theorized that increased levels of job satisfaction would give lower burnout scores. They stated that it has been shown that burnout in nurses arise from stress caused by hospital restructuring. These restructuring which result in social

environmental variables at the hospital are leading to decreasing resources and heightened responsibilities for the nurses, which at the end gives stress and causes the nurses to burn out. This in turn might make nurses more prone to leave the nursing profession. Kalliath & Morris (op. cit.) verified that nurses' satisfaction with their jobs was an important predictor of the nurses' burnout. In their study they showed that job satisfaction and burnout could be connected to each other in a direct and indirect way. Taken together this research showed that increased levels of job satisfaction can decrease burnout in nurses, in hospitals suffering from very stressful working environments. Decreased job satisfaction was shown to cause a cognitive work-related and organization-related withdrawal in the nurses, and these nurses were more prone to have negative experiences at work than nurses with higher job satisfaction.

Martini, Arfken & Balon (2006) looked at burnout in nurses in connection to a number of factors. All together his sample of nurses reported burnout in 41% of the nurses and this number was positively related to hours worked per week, with burnout increasing when the hours of work per week increased as well. The researchers showed that nurses who stated that they worked more than 80 hours per week reported increased burnout scores in comparison to those nurses who worked less hours per week. Another variable having an affect on burnout was years worked at the ward. The researchers showed that those nurses, who had only worked for one year at the present ward, reported increased levels of burnout. However, Martini et al. (op. cit.) wanted to see if a work hour limitation would decrease this relationship, resulting in decreased levels of burnout when hours of work was limited. It turned out that those nurses who had been working for one year at the ward and had limited working hours per week, had lower levels of burnout than those nurses who did not have any working hour limitations. In this study, marital status, having children and family stress could not be related to burnout frequency.

Schmitz, Neumann & Oppermann (2000) reported on the effects of work-related stress and locus of control on burnout in 361 German nurses. The researchers put forward that work-related stress and locus of control would predict burnout and that locus of control would serve as a moderator between burnout and work-related stress. It was found in this study that increasing work-related stress and increasing burnout scores were associated with decreased locus of control in this sample of nurses. Thus, those nurses who thought that they did not have much control over different events taking place in their lives were more susceptible to

burnout and stress, in comparison to those nurses who believed that they had control over their lives. According to this, increased levels of burnout were connected to increased levels of work-related stress, and a decreased level of control related to the different aspects of the nurse's life. Also, increased levels of stress were related to decreased levels of control for the nurses in this sample.

Murrells, Robinson & Griffiths (2008) conducted a research related to newly qualified nurses and job satisfaction over a period of time in the nurses' early career. More precisely, they wanted to look at to which degree the nurses' levels of satisfaction with their jobs differed at six months into their career, at 18 months and at 3 years into their career. The researchers also wanted to see to which degree the nurses' specialization had an affect on their job satisfaction. One of the major findings in this study was that the nurses were not happy with their salaries when they took into consideration their responsibility level. However, the nurses were very content with their nursing colleagues and the amount of social support they received from them. The researchers other interesting findings were related to satisfaction connected to management and prospects for development within the work. When it comes to the satisfaction levels, generally the nurses' satisfactions got stronger between six working months and 18 working months, and then there was a decrease between 18 working months and 3 years working as a nurse. According to Murrells et al. (op. cit.) this might mean that as time went on for the nurses and more responsibilities emerged for them, the nurses' outlook on their work related to the management worsened and the management could no longer meet the nurses' expectations. When it comes to prospects for development for the nurses, they reported quite low opportunities for development throughout all the three different working time periods. Between six working months and 18 working months, there was a minor increase in the opportunities for development scores among the nurses. From then on the nurses reported decreasing opportunities for development scores. According to the researchers, this had a negative effect on the nurses since they did not get an opportunity to share ideas about their work and also they did not get required feedback of their work.

2.5.2. Burnout in emergency nurses

In the literature there has been some studies dealing with stress and burnout in different wards and among nurses having different specialties. Research in this area has shown that burnout

and stress levels could be different in relation to different sections and different nursing wards. It has been shown that levels of stress could be less for those nurses working in palliative wards than other wards, like for example oncology wards. However, stressors affecting burnout have to be looked into no matter which ward or specialty since the nurses also have many different things in common irrespective of which ward they are working at (Sherman, 2004).

van der Shoot et al. (2003) conducted a study with European nurses and found that burnout seemed to be connected to the type of ward the nurse was working at. For example, nurses working in oncology wards showed high levels of burnout combined with the fact if they were young. The level of burnout in the oncology wards decreased the older the nurses were. Burnout in nurses working at geriatric wards showed higher levels of burnout the older they were, reaching much higher levels of burnout at an older age than the nurses working at oncology wards. There is a general expectation that palliative nurses have high levels of burnout, however van der Shoot et al.'s study showed that Swedish palliative nurses did not exhibit significant levels of burnout. These nurses showed more satisfaction than stress at their work. These nurses in Sweden showed low levels of turnover and work stoppages, and the nurses' self-image was positive. These results were explained by the criteria for the selection of the nurses, by high levels of teamwork, and by positive and continuous feedback. The researchers also found higher levels of burnout in nurses working at hospitals and nursing homes than nurses working in home care institutions. Further, the nurses who had some problems related to the kind of work they were doing, mentioned particularly not being satisfied with the patient related work opportunities.

Aiken, Clarke, Sloane, Sochalski, Busse et al. (2001) conducted a research in five different countries (United States, Canada, England, Scotland, and Germany) including more than 700 hospitals in their study. They looked into the areas of staffing and the organization of hospitals, together with which outcomes there were for these factors for nurses working at emergency wards in the different countries. More specifically the researchers looked into and wanted to find out more information about the hospitals working climate, the nurse staffing, and outcomes for the nurses and patients. The study found that a majority of the nurses across countries, except for German nurses, were not happy with their jobs and a majority of the nurses across countries reported substantial work-related strain. In the five different countries, except for Germany, the 30%-40% of the nurses reported high levels of burnout. It was

interesting to note that in England and Scotland a high number of nurses reported an intention of leaving their jobs soon. For nurses who were under the age of 30 this was even more pronounced in England and Scotland, since nurses in these two countries reported a desire to leave their jobs soon to a much higher degree than in any of the other four countries.

A popular view in the literature is that there might be problems in the relationship between nurses and doctors, and other nurse colleagues. In the study conducted by Aiken et al. (2001) it was shown that this was not the case. A majority of the nurses in their sample reported that the co-operation with doctors was very good and that the nurses were satisfied with the quality of care given by the doctors. About co-operation with other nurse colleagues, the nurses in the sample stated that their nurse colleagues were reliable and competent colleagues. A minority of the nurses stated that the number of nurses working in the different wards was enough and that they could provide patients with high quality treatment, and that there were enough nurses to carry out the work. Also a minority of the nurses reported that support services available for them were sufficient. About 50% of the nurses in all five countries stated that the management at their workplaces was taking responsibilities for the nurses concerns, that the management was giving nurses different opportunities to take part in the decisions made in the hospital, and that the management was recognizing the contributions from the nurses towards patients. In the five countries the nurses felt that they spent time carrying out work where they do not have to utilize their professional background and that duties where they could benefit from their professional background were left undone. A minority of the nurses in the five different countries stated that the quality of the care which they and their ward were providing for the patients was excellent. However there was a difference between the quality of care between Europe and the United State, with higher amount of nurses reporting that the quality of care in their hospital in the United States has decreased (Aiken et al. 2001).

Badger (2005) reported on an interesting finding for nurses in emergency care. He found that the age of the patient played an important factor in the way the nurses treated them. The nurses themselves reported that the younger the patient was the more aggressive they were with them. The nurses felt that the younger patient had an opportunity to survive to a higher rate than older patients and thus they treated them more aggressively and with less patience. Another variable which also played an important role was the family of the patient. The nurses felt that many of the times the family of the patient would exhibit too high demands

about a patient's treatment without having the medical background to do so. The families sometimes would have requirements which the nurses felt they were not able to meet and that a lack of understanding from the family made the nurses work much more difficult.

Escriba-Aguir, Martin-Baena & Perez-Hoyos (2006) has pointed out that nurses working in emergency wards are facing a number of psychosocial risk factors due to the nature of their work. These psychosocial risk factors can include workload, working without colleagues, no social support, not much spare time, unmanageable working rotation, violent and demanding patients, patients with serious illnesses etc. These psychosocial risk factors can have a detrimental affect on the nurses' physical and mental health, and they hold negative consequences for the well-being of nurses.

Escriba-Aguir et al. (2006) conducted a research in which they wanted to see the connection between nurses' psychosocial working environment and burnout levels in 639 Spanish emergency ward nurses. The psychosocial working environment was made up of psychological demands, job control, and social support from supervisors and colleagues. These psychosocial working environment variables together with physical workload were investigated in relation to burnout. In the study it was shown that decreased control in one's job and psychological stresses were negatively related to personal accomplishment and depersonalization. On the other hand, the researchers could not show a negative influence of physical workload on burnout. The researchers also showed that increased levels of psychological stress, diminished job control, and a lack of supervisory and collegial social support increased the levels of emotional exhaustion in the nurses. Conversely, they found a diminished connection between psychosocial risk factors, and depersonalization and personal accomplishment. Earlier studies have also found a relationship between decreased job control, increased psychological demands and a lack of social support, and higher levels of burnout (see for example Cheng et al., 2000; Spector, 1999, in Escriba-Aguir, Martin-Baena & Perez-Hoyos, 2006; Lerner, Levine, Malspeis & D'Agostino, 1994).

Allen & Mellor (2002) wanted to look at the connection between the kind of hospital ward the nurse worked at, neuroticism, control, and burnout levels. The two hospital wards being compared were chronic care and emergency care. The researchers did not find any significant differences between the nurses working in the chronic care or the emergency care, related to

burnout scores or any of the three dimensions of the burnout. Thus, it seems that, for these researchers, burnout affected nurses irrelevant of which ward they were working at. However, Maslach (1986) has suggested that nurses working in chronic wards will show higher levels of burnout since they are working with chronically ill patients who will not recover from their illnesses and thus are more emotionally exhausting to work with for the nurses.

Parikh, Taukari & Bhattacharya (2004) argues that levels of work-related stress and burnout varies depending on which specialty the nurse has, since the type of work-related demands connected to nurse's specialty might worsen already present work related stress. The researchers carried out a cross-sectional analysis with nurses working at four different wards and they found that 38.5% of the nurses had increased levels of psychological morbidity. The wards which were investigated were oncology, internal medicine, emergency, and HIV ward, and it was the nurses in the HIV ward which was mostly affected by psychological morbidity. It is said that nurses who are specialized within a field of nursing are the ones mostly experiencing negative outcomes of work related stress.

According to Potter (2006) nurses working at emergency wards are usually very busy, and they are working in environments which are changing all the time and environments which are unpredictable. Nurses working at emergency wards are exposed to unpredicted death of patients, trauma, violence, and patient overcrowding which all add to the already stressful working environment of the emergency ward. The work itself at emergency wards is made up of intensive interactions with patients throughout the day and the dealings with the patients are usually physically demanding. As such, burnout has been connected to enduring work related stress. Potter (op. cit.) has shown that high levels of burnout for nurses working at emergency wards could be related to increased work load. This variable is leading to longer waiting time for the patients, subsequently higher rates of violence and aggression among the patients, and ultimately an increase in the risk of burnout levels for the nurses. Potter (op. cit.) wanted to look at the relationship between nurses working at emergency wards and burnout by applying a team approach to burnout. Nurses and doctors are working closely together at the emergency wards and according to Potter (op. cit.) the burnout should therefore be treated as a team approach, where it is just as important to look after each other as colleagues as it is to look after the patients.

Potter (2006) conducted a literature review to look at the above mentioned aims. Twelve articles were included in her literature review, which matched her research aim. The results from the above mentioned study showed that nurses working at emergency wards had considerably increased levels of emotional exhaustion in comparison to nurses working at intensive care wards and medical wards. It was also shown that the work pressure for the nurses at the emergency ward was significantly higher. When it comes to the depersonalization dimension of the burnout syndrome it was found that the emergency ward nurses had increased levels in this dimension. Looking at the variables rated by the emergency nurses as mostly stressful, they mentioned a lack of nursing staff, verbal and physical aggression, waiting times, shortage of beds, deficient resources, non-existing support from supervisors, and dealing with physicians. The variable control related to burnout at the emergency nurses showed that nurses working at this kind of wards had the least control and the least autonomy, while having the highest levels of burnout.

Potter (2006) looked at the environmental factors and the personal factors related to burnout in nurses working at emergency wards. These factors can be examined in burnout research in nurses and they can determine to which extent these factors contribute to burnout in these nurses.

Looking at the **environmental factors** it has been extensively researched and it has continuously been related to an increase in burnout. A continuous experience with difficult situations might result in burnout even for those emergency nurses who have a wide experience of emergency nursing. Burnout is not exclusively related to nurses working at emergency wards but is well-known to affect other nurses and other professions as well. Nevertheless, nurses who are working at emergency wards are encountering added work related stressors than those nurses working at other wards. Factors in the emergency ward environment which have been shown to have an effect on burnout are workload, lack of personnel, lack of control of the working environment, violence, trauma, and complex situations. Potter (op. cit.) also looked at emergency nurses, emergency nurse practitioner's, and emergency nurse manager's relationship between burnout and control. The results showed that the emergency nurses had the least amount of autonomy, the least control and the highest burnout levels out of the three groups.

Looking at the **personal factors** it was shown that the age of the nurses played an important part in the burnout of emergency nurses. More precisely it was shown that younger nurses were more excited when it comes to nursing and that stress connected to the workplace

became evident after the nurse had been working for one year at her current workplace. It is often the case that young nurses start their nursing careers with idealistic hopes of control connected to her workplace and patients. It has been shown that young nurses have increased levels of emotional exhaustion and depersonalization than older nurses. However, in older nurses there has been shown a decrease in personal accomplishment and explanations given for burnout in this age group has been a refusal to learn new things. In the research by Potter (op. cit.) personality was also looked into and to what extent different types of personality might be more prone to burnout. Personality types which have been shown to affect burnout are stubborn, rigid, inadaptible and critical personalities, and nurses with these personality characteristics might behave in the above mentioned way due to the experience of burnout.

Potter (2006) also showed in her literature review that a comparison between emergency ward nurses and general ward nurses' workplace-related stress was higher for the emergency nurses than for the general ward nurses. However, she also pointed out that scarce amount of research has been conducted to look at burnout for nurses working at emergency wards. On the other hand, the research which has been conducted has shown that burnout is a significant consequence for many nurses working at emergency wards, and that there is a high degree of emergency nurses suffering from burnout.

Gulalp, Karcioğlu, Sari & Koseoğlu (2008) wanted to look at nurses' characteristics working at emergency wards in connection to burnout. When it comes to burnout, the researchers showed that 53% of the nurses were suffering from burnout, with high levels of emotional exhaustion and depersonalization, and low levels of personal accomplishment. Factors in the working environment contributing to the burnout levels were too many patients at the ward, low levels of organization, not being enough nurses at the ward, aggressive patients, and low salaries. Apart from factors within the working environment, the researchers also looked at factors in family life satisfactions. For example, it has been shown that single nurses report higher levels of burnout than married ones; however this was not the case in the mentioned research. In Gulalp et al's. (op. cit.) research it was shown that burnout was not related to marital status, number of children, and private life satisfaction. In accordance with this the researchers point out the fact that in their research organizational factors had a more significant impact on burnout in these emergency nurses than private life satisfaction.

Lin, Hsu, Chao, Luh, Hung et al. (2008) conducted a research in 234 emergency nurses and how they look at their working environment. i.e., different characteristics of job satisfaction and which factors could be associated with it. The study showed that the emergency nurses looked at different areas of their jobs in a negative way. They thought for example that the management of the hospital was not supportive of giving financial incentives like bonuses and compensations. In the study it was also found that demographical variables like age and education had an affect on perceived job satisfaction, together with different aspects of the work itself, like one's working status and the actual workload. When it comes to age, the researchers found that job satisfaction was reported to be higher for the older nurses than for the younger one's and that the older nurses also reported higher satisfaction connected to autonomy, professional growth, the management, and the rules and regulations at the hospital. When it comes to education, the researchers showed that nurse with higher education reported lower levels of job satisfaction related to the management, and the rules and regulations at the hospital. Also working hours was shown to have an affect on job satisfaction, in that nurses working 40 hours per week reported lower levels of job satisfaction with regard to intercommunication with other hospital wards.

2.5.3. Burnout in Swedish and Hungarian (emergency) nurses

Parikh et al. (2004) conducted a review of cross cultural studies and different nursing wards, and they found four main factors of work related stressors: workload, role ambiguity, interpersonal relationships, and worries about patient's death/dying. In their study, Tyson, Pongruengphant & Agarwal (2002) looked at work related stress in Western and Eastern countries. The results of this study demonstrated that workload, role ambiguity, a change in responsibilities, patients dying, conflict between managing work and home responsibilities, and nurses feelings of not being involved in decisions made at the workplace were the main work related stress factors across the Western and Eastern countries.

Maslach et al. (2001) looked at the research trend in burnout across countries and they found that it has moved beyond the borders of its original country of research, America, to include countries in Eastern and Western Europe. The first countries where the burnout research trend spread to was the English-speaking countries like United Kingdom and Canada. Shortly after that the research trend also spread to other countries and researches were translated into many

different languages, which spread the research about burnout to many countries in Europe and Israel. The research in these countries was established after the measures and the concept already had been recognized in America, which means that the research conducted outside the borders of America was building on strong theoretical and methodological grounds. It is interesting to note that even though burnout has this cross-cultural background and even though research has been conducted about it in a variety of countries, the term itself has not been translated in almost any countries. However, there exist literal translations of the term burnout in many languages: German, *ausgebrannt*; Dutch, *opgebrand*; Swedish, *utbränd*; Norwegian, *utbrant*. When it comes to the Maslach Burnout Inventory (MBI), in most of the countries the questionnaire has just been translated without really testing its psychometric properties in the language in question. Still, there exist some official versions of the MBI which have undergone many tests and studies, like the French one by Dion & Tessier (1994), the German one by Bussing & Perrar (1992), and the Dutch one by Schaufeli & van Dierendonck (2000, in Maslach, Schaufeli & Leiter, 2001). According to Maslach et al. (2001) the MBI questionnaires which have been translated into foreign languages have been shown to have comparable internal consistencies, and to be comparable in factorial and construct validity to the original American version. Also, the three dimensions (emotional exhaustion, depersonalization and personal accomplishment) of the MBI seem to be the same cross-culturally.

Maslach et al. (2001) looked into the national dissimilarities when it comes to average levels of burnout. They found that the levels of emotional exhaustion and depersonalization were on average lower in Western Europe than in the USA. The researchers cannot really give an explanation for these differences; however they argue that it might be underlying cultural differences in the background. One suggestion they give is that Americans might be more prone to react in an extreme way to questionnaires; another suggestion might be that it is more socially acceptable to show the characteristics of burnout (especially depersonalization) in America than in Western Europe, since the culture in America is very much an individualistic society. In Western Europe, on the other hand, the culture is more oriented towards collectivism and group solidarity. It might also be the case that since there is a higher drive for accomplishments in America; people are experiencing more work related stress. Alternatively, it could be that the work itself is truly more stressful in America than in Western Europe. Maslach et al. (op. cit.) found it interesting that the only country in Europe where the levels of burnout were just as high as in America was Poland. Here the conditions

at work are underprivileged in comparison to the standards in Western Europe, which may explain the high levels of burnout in this country. The differences in burnout levels between Western Europe and America has in the literature been attributed to the translation of the MBI, however, these differences cannot simply be attributed to this, since nurses in Great Britain and Ireland had lower burnout scores and French-Canadian nurses had higher burnout scores. In connection to this, Maslach et al. (op. cit.) looked at a research comparing American nurses with other parts of the world, except for Western Europe. In the American sample 20% of the nurses were considered to be in the most severe burnout group, and in the Asian and Eastern European sample 28% of the nurses were considered to be in the most severe burnout group. The two countries where the burnout was found to be the highest were in Japan and Taiwan. Thus, the researchers concluded that the lower levels of burnout in Western Europe cannot be seen as typical levels in other countries in the world.

Looking at the burnout phenomenon in Sweden, Sörlië, Kihlgreen & Kihlgreen (2005) conducted a qualitative research, with emergency nurses and the aim of their research was to get an understanding of the nurses' work related experiences at the emergency wards. The nurses were told to describe patient care situations they were experiencing as being challenging. The Swedish nurses in the study showed that they felt it to be a huge responsibility to work at emergency wards. When the nurses had to reflect upon their difficult or stressful situations at their workplace, they mentioned that the level of responsibility, their reactions towards patients, the work environment, and negative outcomes for patients have a negative effect on them. Generally all the nurses said that they expect a lot from themselves and the demands they have on themselves is the same demand they expect from their patients.

Sörlië et al. (2005) identified four different work related factors for the Swedish nurses, which they considered to be important aspects of their jobs: responsibility for patients, time and frustration, divided tasks, and working alone. When it comes to the **responsibility for patients'** factor, the researchers found that nurses working at emergency wards thought that it is necessary to monitor patients and to reflect upon this patient monitoring for the nurses to be able to provide proper care for them. The Swedish nurses could identify which responsibilities they have for increasing their patients' well-being and sense of care. Within this group the nurses also mentioned that many of the patients do not belong at the emergency ward but should ideally be treated at other wards. Since, however, other wards cannot care for these patients they end up at the emergency ward. The nurses found this frustrating since these

types of patients might have needed other kind of care than what the nurses could offer at the emergency ward. When it comes to the **time and frustration** factor, the researchers found that the nurses were experiencing negative emotions related to this factor from many different kind of sources. For example, the nurses stated that not having enough time to talk to the patients about the patient's feelings and being disturbed by other responsibilities or having to answer the telephone was a big source of frustration for the nurses. They also mentioned that not being able to spend enough time with the patients and not being able to sit down and have a conversation with them was very frustrating for them. When it comes to the **divided tasks** factor, the researchers found that the nurses described their jobs as being severely divided, which meant that the nurses were experiencing their emergency ward as containing many stressful elements and as very busy. Two of the elements which were especially mentioned were that too much of their time was being spent dealing with administration, and that the instructions of the physicians were controlling which tasks should be carried out at the ward. These orders were disrupting the work of the nurses which was leading to a great deal of frustration for the nurses. When it comes to the **working alone** factor, the researchers found that even though the nurses were working alone many times they felt that there was not an enough level of communication between themselves and other nurses. They also mentioned that they felt they were working *next to* the other nurses and not *with* the other nurses.

Arnetz (1999) conducted a research in the area of Stockholm in Sweden about nurses' perception of the quality of care they are providing to patients. He showed that a majority of the nurses reported that the quality of care at their hospital could be much improved and nearly 40% of the nurses were not satisfied when it came to the quality of care offered by their specific ward. When the researcher looked at the organizational and economical changes which have taken place in the hospitals in the region of Stockholm, he found that a majority of the nurses stated that there had been an increase in their workload during one year and a minority of the nurses reported that their workload had not been changed or that it had been decreased. The nurses had to evaluate the most essential variables they felt to influence their health and the researcher could identify three major variables contributing to organizational health; the first most essential variable identified by the nurses was if the supervisor gave them information regarding every day duties, the second most essential variable was if the nurses had an opportunity to give remarks on information put forward by the management, the third most essential variable was the nurses opportunities to be part of the decisions made by the management. Also, it was very important for a majority of the nurses to receive clear

instructions from their supervisors and that other nurse colleagues were committed to the hospital organization. Lastly, a minority of the nurses mentioned to have access to information in order to be able to perform their work-related responsibilities.

Hansen, Sverke & Näswall (2009) looked into the area of hospital ownership and burnout at three different Swedish emergency hospitals. More specifically they wanted to look at different factors in 1102 nurses' psychosocial work-related environment associated with hospital ownership and to look at the levels of burnout in connection to these different factors. Ownership in this study was divided into three different groups, namely private for-profit hospital, private non-profit hospital, and a publicly run hospital. The researchers put forward four research questions which they wanted to look into and in those the researchers expected the levels of burnout to be higher the more commercialized the ownership of a hospital was, the job demands levels and job resources levels to be higher the more commercialized the ownership of a hospital was, increased burnout levels to be associated with high levels of job demands, and finally decreased burnout levels to be associated with occurrence of job resources. When it comes to expected levels of burnout the more commercialized a hospital was, it was shown that highest levels of burnout among the nurses could be found in the private for-profit hospital and lowest levels of burnout could be found in the public hospitals. When it comes to job demands, the researchers showed that this factor was not increased in proportion to the commercial ownership level of a hospital. When it comes to burnout connected to job demands and job resources, it was shown that burnout was most significantly related to job demands and that job resources were generally associated with decreased levels of burnout.

Nilsson, Hertting, Petterson & Theorell (2005) investigated which possible predictions could be made concerning work-related environment at a hospital ward in Sweden. When it comes to the results, one of the major findings in this research was that the nurses mentioned the positive aspects of belonging to a small ward. Since the ward where the nurses were working was a small one, the nurses mentioned that it was much easier for them to get to know their colleagues and to feel loyalty towards their nursing colleagues. It was also shown in the study that decreased job satisfaction related to colleagues was connected to increased levels of short-term sick leave. Looking at the management, the nurses reported positively in connection to them. They reported managers to give them opportunities for extending their knowledge at work and to empower them, and thus learning played an important role at the

ward. There were frequent opportunities for developing the nurses' competence and thus the nurses were more motivated towards the work. In this specific study the two key words were confidence and pride in ones work. The nurses took pride in the things they achieved at the hospital and pride in belonging to their specific ward. The positive attitudes of the nurses could, according to the researchers, be attributed to a strong managerial and collegial social support.

When it comes to Hungary, Piko (2006) looked into the associations between burnout, role conflict, and job satisfaction in 201 Hungarian nurses. As a second aim, the study also looked into how the psychosocial working climate could be connected to how often nurses' experienced psychosomatic symptoms. According to Piko (op. cit.) the issues of psychosomatic health is very important in Hungary, since the country has been going through many political changes. Hungary is a society in the middle of a post-socialist transformation and in this society the health care system has gone through many changes due to an enduring reform. Looking back at the history of Hungary, it can be seen that massive changes regarding the whole health care system have been put into place since 1989, which can be explained by Hungary's socio-economic reforms. These reforms entailed changes in for example regards to policies, ownership and funding of hospitals, hospital organization, structure of the service, which rights patients have, and the education of future doctors and nurses. Issues so far has been addressing distribution of resources and health care quota and due to these issues dramatic cut backs have been made in regards to social welfare and health care. During the communistic period in Hungary, financing of the health care system was insufficient and the consequences of this were that people working within the health care systems (in particular nurses) received low salaries and they remain low even today. Thus, in Hungary there are many nurses deciding to leave the health care system and the nurses who decide to stay do not only have to deal with low salaries but also unfavorable psychosocial working environments. Since Hungary has gone through all these changes in the health care system and since there are still changes being implemented, there is a lack of research related to job satisfaction and burnout in nurses. Due to this, Piko (op. cit.) in her research specifically wanted to look at if psychosomatic health issues could be a proper predictor of burnout in nurses in the ever-changing Hungarian health care system working environment. Consequently, the study wanted to look at the relationship between burnout, role conflict, and job satisfaction, and also to look at how these factors of the psychosocial work environment affected the occurrence of psychosomatic complaints in the nurses. In addition, age, marital status, education, and

number of years worked as a nurse was also looked into. The research of Piko (op. cit.) showed that the Hungarian nurses in her study reported comparatively increased burnout levels and she showed a significant association between psychosomatic complaints and burnout. Also, role conflict and number of years worked as a nurse could be connected to psychosomatic complaints. Burnout, then especially emotional exhaustion, was shown to be significantly connected to job dissatisfaction, and education was shown to have an impact on job satisfaction. More precisely it was revealed that the nurses with higher education had lower levels of job satisfaction. As it turned out that job satisfaction could not predict emotional exhaustion, depersonalization or personal accomplishment; role conflict on the other hand could be positively connected to emotional exhaustion and depersonalization. Education and burnout was also connected to each other in that education had a negative effect on depersonalization and a positive effect on personal accomplishment. In this research it was thus shown that the educational factor served as a protective factor when facing bad work-related issues.

Piko (1999) conducted another research where she looked at the association between stress connected to work, and the organizational and psychosocial factors in 218 Hungarian nurses' workplace. In her research, Piko (op. cit.) investigated two different points, the first was if the differences in psychosomatic symptoms that the nurses reported, and their health and health risk behaviours could be connected to the stress levels of the nurses. The second point was if the stress levels of the nurses could be associated with demographic variables, work-related factors or psychosocial variables. Piko (op. cit.) found that nurses reports of their stress levels could be connected to the nurses' occurrence of psychosomatic symptoms and their reported health and health risk behaviours. The researcher also found that education could be related to stress levels, in that highest stress levels was reported by nurses with only a primary level of education and the lowest stress levels were reported by nurses having a baccalaureate education. In relation to this, other researchers have reported opposite results, in that nurses having higher degrees of education also reported higher levels of stress (see for example Tyler & Ellison, 1994). When it comes to Piko's (1999) research it was also shown that nurses aged 51-60 years old were the ones reporting to be most susceptible to high stress levels. Also, reported levels of the highest stress could be noticed for the nurses working on a rotating night shift. Finally, the research did find that having social support from the colleagues served as protective factor against stress levels, in that nurses experiencing high levels of collegial social support reported less incidence of stress.

Palfi, Nemeth, Kerekes, Kallai & Betlehem (2008) looked at the occurrence of burnout in a sample of Hungarian nurses. They wanted, more specifically, to look at which social and/or demographic variables were influencing the burnout levels and to see the physical and psychological load of the sample of nurses working in different health-care settings. The researchers assumed that the demographic and social variables, like age, education, type of work, and leaving the work, would impact the occurrence of burnout for the Hungarian nurses. They also assumed that different health-care settings, like which kind of care is offered, hospital ward, and salary, would have an impact on the occurrence of burnout. When it comes to the results of this study, the researches showed that leaving the nursing profession could be associated with burnout, where 66% of the nurses stated that they had thought about leaving their work. Interestingly this research showed that the demographic variables did not have a significant effect on the burnout. Burnout, in this study, was mainly associated with the work-related environment and thus demographic variables were not seen as significant risk factors. The researchers looked at nurses working at different wards and they found that nurses reported highest levels of burnout at the intensive care wards. In these Hungarian health care settings, salary was shown to be of great deal importance where nurses reported low salaries as a very important problem and in many cases Hungarian nurses were forced to take on a second job.

Piko (2003) argued that the work setting has been pin-pointed as an important factor in relation to nurses job performance in many studies (see for example Jones & Johnston, 2000; McDaniel & Stumpf, 1993; Tumulty, Jernigan & Kohut, 1994) but still in Hungary this issue has not received a lot of attention by researchers. For example, researchers have neglected and not conducted research related to work-related stress and psychosocial work environment as having an impact on nurses' health. In relation to this the researcher is calling out for more research related to the association between the psychosocial work settings of nurses connected to their health in Hungary, due to the vast changes the country has gone through in the health care system since 1989. Piko (2003) conducted a research related to these areas. She looked at connections between demographic variables and the psychosocial work setting for 218 nurses in Hungary, and mapped these nurses' psychosomatic symptoms in order to explain their psychosomatic health. The researcher assumed that psychosocial work-related factors would predict the psychosomatic health for the nurses most significantly, after controlling for the effects of demographic variables. The result in this study confirmed the researcher's assumption, in that psychosocial work-related factors were significantly related to

psychosomatic health, after demographic variables were controlled for. More specifically the researcher found that the occurrence of work-related problems causing stress and negative emotions, and a lack of collegial social support were the factors causing the most negative health outcomes. Thus, salary, lack of incentives, and nurses having decreased social status were all proven not to be as important factors related to negative health outcomes as psychosocial work-related factors.

When it comes to the field of burnout related to Hungarian nurses, the literature and research is very scarce. In Sweden, burnout in nurses has been more extensively researched. However, when looking at burnout research separately conducted in association to emergency nurses in the two countries, the literature is very limited. Regarding comparisons in emergency nurses' burnout between the two countries, the prior literature can even be said to be non-existing. This dissertation aims to compare Hungarian and Swedish emergency nurses' burnout levels and is thus contributing to the limited research done in the field of emergency nurses burnout connected to nation-based comparisons between Hungary and Sweden.

2.6. BURNOUT AND WORK-RELATED FACTORS

According to Brewer & Shapard (2004) there are several factors which have been related to contribute to burnout. The factors can be separated into two different factors: environmental and organizational factors.

When it comes to occupational characteristics Maslach et al. (2001) states that the early works of burnout came from the occupational areas of human services. The area which the researchers were mostly interested in within this topic was the emotional challenges with working closely with patients. Even though burnout seems to be present in many different types of occupations, the researchers have agreed that the emotional stress for people working with other people can be exclusively related to burnout. The early research of burnout was not able to find a significant amount of evidence in favor of this idea, alternatively frequent work-related stressors (like for example workload, time pressure, role conflicts) could be more significantly connected to burnout than patient-related stressors (like for example problems with interacting with patients, the amount of interaction with chronically or terminally ill patients, death/dying of patients). Conversely, research done recently has paid attention to

emotion-work factors (like for example obligation to show or restrain emotions at ones workplace, obligation to be emotionally empathic) and this kind of research has shown that emotional factors like these can be significantly related to supplementary variance in burnout to a higher degree than work stressors (see for example Zapf, Seifert, Schmutte & Mertini, 2001, in Maslach, Schaufeli & Leiter, 2001).

Looking at the characteristics of the organization, Maslach et al. (2001) states that researchers have had to reconsider the situational circumstances related to burnout due to that different occupational divisions have been developed. Previous research has been concentrating on the present setting where the work is taking place, like a nurse's work with patients. The problem with this focus when conducting research has been that the work which a nurse is doing is happening inside a bigger organization which has hierarchies, different rules and regulations, assets, and different divisions. These variables all have an extensive and continual influence on the nurses, especially when these variables breach opportunities, fairness, and justice for the nurses. Thus, organizational and management factors were included in the area of the burnout research, since they obvious have been shown to have an affect on the nurse work life and experiences. This area has focused on the significant role of values inherent within the organization and its structure, and it has also focused on how those values are forming the nurses' emotional and cognitive connection with other people at their workplace. The organization is also made up by bigger social, cultural, and economical factors and due to these factors; hospitals have been subjected to many different changes. These changes have for example been downsizing, merges, and privatizations, which have brought many changes in the nurses' lives. The changes which have taken place for many nurses have been mostly apparent in the changes of the so called psychological contract. This psychological contract stands for a conviction in what a nurse's employer has to supply on the basis of supposed promises of mutual exchange. At the time, being a nurse is supposed to offer more time, effort, skills, and flexibility at the same time as they are given less opportunities for career advances, for lifetime employment, less job security etc. This kind of breach of the psychological contract stands high chances of creating burnout since it takes away the idea of reciprocity. This reciprocity is in itself a very important factor in order to keep one's well-being at a high level.

Brewer & Shapard (2004) state that the environmental and organizational factors which have shown to effect burnout are work **overload**, **role conflict**, **role ambiguity**, the **work**

environment, and **support** from the supervisors. If we look at the **overload** caused by the work, it arises when the demands for a person are too high and the time or resources to handle these demands are not enough. Work overload has been found in different research to contribute to burnout, like for example Mazur & Lynch (1989) who found that work overload was one of the factors which most significantly predicted burnout. Other researchers have also found a strong relationship between work overload and burnout (see for example Burke & Richardsen, 1996, in Brewer & Shapard, 2004; Cordes & Dougherty, 1993). Also according to Maslach (1982), when looking at different work settings which have a high chance of resulting in burnout, they have one thing in common; that they are characterized by **overload**. The overload can be physical or emotional and no matter which one of them it is, if the overload exceeds a person's ability to cope with it, we call it stress. The overload can be that the work has too many demands or maybe too much information is being directed at us and all of the overload is happening too fast for a person to be able to keep up with it. For a nurse, the overload might be too many patients and too little time to help them properly, which is a situation just waiting for burnout to occur.

Brewer & Shapard (2004) have pointed out the difference between **role conflict** and **role ambiguity**. These two constructs are similar but at the same time also two different constructs. Role conflict takes place when different demands expected of a person clash with other demands expected of the same person. On the other hand, role ambiguity takes place when a person does not understand the demands expected of her. Both role conflict and role ambiguity have been related to burnout (see for example Low, Cravens, Grant & Moncrief, 2001; Sethi, Barrier & King, 1999; Singh, Goolsby & Rhoads, 1994). According to Brewer and Shapard (2004) the **work environment** has also been related to burnout. Factors within the work environment which have been related to burnout are for example physical discomfort and a lack of involvement when decisions are being made at one's workplace. Burnout has also been observed when there is a lack of support from the supervisors (see for example Cheuk, Wong & Rosen, 1994; Kickul & Posig, 2001).

Maslach (1982) is mentioning that burnout is also at a high risk when a person does not have a sense of **control** over their working situation. This lack of control can be due to having been told what to do, when to do it and how to do it, without any possibility of doing things differently. The sense of lack of control can also occur when a person feels she does not have any influence on decisions being made concerning her job, when someone does not have any

chance of getting away from a stressful situation, or when someone is given responsibility she cannot cope with. A lack of sense of control concerning one's work situation can make a nurse feel frustrated, angry, ineffective and unsuccessful.

Maslach (1982) is further saying that burnout can also occur in connection to a nurse's **colleagues**. A nurse has to have a healthy relationship with her colleagues; otherwise this relationship might be a source of negative emotions for the nurse. Thus, the relationship with colleagues can sometimes be more stressful than the relationship with patients. This relationship can contribute to burnout in two different ways. One of the ways is that the colleagues serve another basis of emotional stress which can lead to the development of emotional exhaustion and negative feelings concerning people. The second way is that the colleagues take away an important resource for the nurse to be able to cope with and to prevent burnout. Just as the relationship with the colleagues is very important for the nurse to have a healthy working relationship with, also the relationship with the **supervisors** is very important since the nurse also has to deal with them on a daily basis. If this relationship is not working properly, the nurse might feel tension and negative emotions which add to the emotional overload of the work itself.

Just like Maslach (1982) mentioned, also according to Maslach et al. (2001) when it comes to job characteristics and more specifically quantitative job demands (like for example too many tasks in relation to time available to carry them out) they have been looked into by a variety of researchers and the findings from these researches have shown that overload can cause burnout. Both **workload** and **time pressure** have been significantly connected to burnout, especially to emotional exhaustion. This result has been reported for self-reports of how much strain a nurse is experiencing and for more objective measures of work demands, like for example how many hours a nurse is working and how many patients she has to take care of. Just like Brewer & Shapard (2004), Maslach et al. (2001) also looked at **role conflict** and **role ambiguity**. Both of these variables have shown to be moderately and highly connected to burnout. Role conflict takes place when a nurse has to carry out contradictory demands at her workplace and role ambiguity takes place when a nurse does not get enough information regarding how to carry out her job in a good way. Another topic which has been studied in relation to job characteristics is not only job demands but also the lack of job resources. In connection to this, the topic which has been looked into most is **social support**. There is today a mutual understanding among researchers that a lack of social support can be connected to

burnout. The factor which has been highlighted has been the lack of support from supervisors (see also Brewer & Shapard, 2004), which has been shown to play a more important role in relation to burnout than the lack of support from colleagues. Also in connection to research done about social support, the so called buffering hypothesis has been looked into. This hypothesis states that social support should work as a mediator between job stressors and burnout, which means that the connection between job stressors and burnout will be stronger if there is a low level of social support and this connection will be weaker if there is a high level of social support. Different studies which have looked into this area of social support have yielded mixed results and the reasons for these mixed results have not yet been explained. Other areas of job characteristics which have been looked into by researchers have been related to **information** and **control** (see also Maslach, 1982). For example, if there is a lack of feedback at a nurse's workplace then this has consistently been connected to burnout. Also participation in **decision making** and a lack of **autonomy** has been looked into in relation to job characteristics. It has been shown that nurses who play a diminished role in the decision making at her workplace are suffering from increased burnout. A lack of autonomy has also been linked to burnout but the relationship between these two variables has not been as strong as for the previous ones.

2.7. LIFE SATISFACTION

2.7.1. Life Satisfaction in general

According to Diener (2000) life satisfaction stands for a global judgment of subjective well-being (SWB). The meaning of subjective well-being is the manner in which people are appraising their lives. One way in which people can assess their lives is life satisfaction and it can be made in relation to areas such as marriage, work and general life. According to Diener, Suh, Lucas & Smith (1997) SWB is looking at someone's mood over a certain time period and it thus measures the inner experiences for a person over a period of time.

Diener & Lucas (2000, in Lewis & Haviland, 2003) pointed out the fact that when someone is talking about the different reasons for emotional well-being and factors associated with it, researchers are first and foremost focusing on factors which are causing people to be more happy than other people. The way people are evaluating their lives are occurring differently due to the person's prior experiences, different values, and life expectations. Researchers

within the field of SWB are assigning a great deal of importance to these subjective variables in people's lives and thus they are measuring a person's feelings and thoughts connected to his/her life, which means that the researchers are looking at a person's appraisal of his/her life in order to catch the person's subjective ideas about his/her life. This affective appraisal a person is making about his/her life is an ongoing appraisal of a person's life circumstances. In contrast to the affective appraisal there is another kind of appraisal related to life circumstances, which is a global judgment related to the quality of someone's life. The global judgment is a cognitive judgment related to the circumstances in one's life and it is also called life satisfaction. It is a cognitive judgment since people are using cognitive processing when appraising their lives. To measure the life satisfaction of people, the researchers are using the Satisfaction with Life Scale (SWLS). This scale was developed in 1985 by Diener, Emmons, Larsen & Griffin and in 1993 it was re-evaluated by Pavot & Diener. The goal of this measure is to assess the prevalence of enjoyable and not enjoyable feelings in people and it gives them an opportunity to use this self-report measure to appraise their satisfaction with life Diener & Lucas (2000).

Different measures such as the SWLS, has proved to have structural stability over time and across different cultures (see for example Andrews, 1991; Balatsky & Diener, 1993; MacKinnon & Keating, 1989; Lawrence & Liang, 1988). For example, Diener (2000) conducted a research related to life satisfaction in 17 different countries and reported that life satisfaction was the one factor which was thought of as important in all the 17 countries, and with money not being mentioned as important as life satisfaction. Thus, it can be seen that people are thinking of happiness as something important, even in those countries which are labelled as quite unhappy societies.

Regarding life satisfaction scores in different countries, below in table 2 the life satisfaction scores in Hungary and Sweden for 2008 is presented. As can be seen below, life satisfaction in the Swedish population was higher in 2008 than in the Hungarian population (Veenhoven, 2008).

Nation	Year	Life Satisfaction
Hungary	2008	4.79
Sweden	2008	7.76

Table 2: Life Satisfaction in Hungary and Sweden 2008 (Veenhoven, 2008)

Diener & Tov (2005, in Kitayama & Cohen, 2007) have suggested that life satisfaction can be reliably measured across nations and that the life satisfaction concept in itself is understood in an equally way in many different countries. Thus, these researchers argue that the concept of life satisfaction is universal and the life satisfaction measurement is responded to similarly in different countries.

2.7.2. Burnout and Life Satisfaction

Demerouti, Bakker, Nachreiner & Schaufeli (2000) conducted a research in regard to burnout and satisfaction with life among 185 nurses from Germany. They wanted to look at the nurses' general life satisfaction in connection to burnout. The researcher made a distinction between two separate groups of working circumstances, i.e., job resources and job demands and they wanted to test three different hypotheses. First of all the researchers wanted to see if emotional exhaustion could be best predicted by job demands (i.e., challenging relationships with patients and time pressure), that is, to see if enduring experience of job demands would cause emotional exhaustion but not depersonalization. Secondly, the researchers wanted to see if depersonalization from work could be best predicted job resources (i.e., presence or non-presence of rewards and involvement or non-involvement in making decisions), that is, to see if non-existing job resources would result in depersonalization but not emotional exhaustion. Thirdly and lastly, the researchers wanted to see if life satisfaction was impacted by job demands and job resources, as a result of nurses experiencing burnout, that is, to see if depersonalization and emotional exhaustion would work as mediators of job resources and job demands on satisfaction of life.

According to Demerouti et al. (2000) life satisfaction can be described as the extent to how much a person's life is satisfying her/his physical and psychological desires and wishes. The person's desires and wishes can be reflected in many different areas of the person's life, like when the person is a worker, a parent, a wife/husband, and a friend. A person's work is believed to have significant impact on satisfaction of life in many different ways. For example, work is the supplier of monthly income which is a way for people to reach their desires and wishes. Also, a person is spending most of her/his waking hours at the workplace and it has been shown that the job has an impact on the self-esteem of people. It has also been shown that unemployment is a cause of major stress for a person. One of the challenges in the

literature, when it comes to the workplace and life satisfaction, is how to enhance life satisfaction by changing factors at the workplace. Demerouti et al. (op. cit) suggested that a person's workplace is affected by life satisfaction by altering factors related to the worker or to the working-environment. Alterations like that could for example be short-term factors related to work, like for example changing a person's mood, energy resources, and interests. The mentioned alterations could also be long-term factors related to work, like for example changing one's skills, one's personality or one's health. Since burnout might be looked upon as a long-term outcome of one's job, burnout could be a marker of the person's quality of work. The researchers thus wanted to see if feelings related to work could spread out to life in general.

In their research, Demerouti et al. (2000) showed that it was especially those nurses who stated emotional exhaustion to a higher degree who thought their relationships with the patients were demanding, nurses who stated that they were under severe time pressure, nurses who experienced severe physical and mental workload, nurses reporting negative environmental conditions, and nurses who experienced a problem with their schedule. The researchers also found that those nurses, who stated their job demands to be high, did not distance themselves from their hospital duties. On the contrary, distancing themselves from work was more pronounced in those nurses who did not have access to adequate resources. Job resources, which played a crucial part in order to predict depersonalization, were feedback of one's work, control over the job, diversity of the duties, supervisory support, rewards, and a feeling of being able to take part in decisions being made. It was also found that when nurses were experiencing a lack of job resources, they took more distance from their duties as a nurse. In the study it was also shown that burnout played an important mediating part in the association between job resources and life satisfaction. The researchers theorized that work-related circumstances were influencing life satisfaction through negative health outcomes, since they could not find a direct association between job demands and job resources, and life satisfaction. Thus, burnout played a mediating part between work-related circumstances and life satisfaction.

Lee, Hwang, Kim & Daly (2004) stated that when it comes to research done in the field of nursing, researchers have focused on work stress and how nurses are responding to their working environment, like for example level of satisfaction with the work and burnout. However, not much attention has been paid to the field of nurses and their well-being in the

form of for example life satisfaction. The researchers' stresses the importance of conducting research in this area since nurses' life satisfaction could influence their performance at work and the job retention. The researchers mentioned that life satisfaction connected to the work setting and health has been looked into but not so much in the field of nursing. In very general terms it can be said that life satisfaction has been positively associated with job satisfaction and that life satisfaction has been negatively associated with burnout. However, ongoing research has not been able to prove whether life satisfaction is more affected by positive or negative effects of work. There have been numerous studies looking at the work-related environment which has an effect on nurse's satisfaction with their job and other effects of the job (see for example Aiken et al., 2001; Brooks & Swailes, 2002; Newman, Maylor & Chansarkar, 2002), however there have not been that many researches looking into the mentioned effects of the work and life satisfaction in nurses. Demerouti et al.'s (2000) research did however look at life satisfaction in nurses and found that job demands and job resources did not have an affect on the nurse's life satisfaction. Tait, Padgett & Baldwin (1989) on the other hand found a significantly positive association between life satisfaction and satisfaction with the job.

Lee et al. (2004) wanted to look at the levels of life satisfaction, burnout, and satisfaction with work in Korean nurses and to see to which extent satisfaction with work and burnout could account for the variance in satisfaction with life. Also, the researchers wanted to see whether demographic variables, work factors or work outcomes would predict life satisfaction most significantly in their sample of Korean nurses. The results showed that the Korean nurses reported to have about average satisfaction with life levels. The one factor which reliably could predict life satisfaction among the nurses, was working shift routines. When it comes to burnout, it accounted for more variance for satisfaction with life than did satisfaction with work, which means that for this sample of Korean nurses life satisfaction was more significantly related to negative work effects than positive ones. When it comes to emotional exhaustion, depersonalization, and personal accomplishment, it was shown that personal accomplishment and emotional exhaustion were the two dimensions most significantly predicting life satisfaction. Thus, lower levels of emotional exhaustion and higher levels of personal accomplishment reported higher levels of satisfaction with life. In summary thus, in this sample of Korean nurses, those nurses had higher life satisfaction who were content with their nursing status and who reported higher levels of personal accomplishment, and the nurses who had night shifts were the ones experiencing lower levels of life satisfaction.

Nemcek & James (2007) conducted a study which wanted to investigate nurses' opinions about factors related to their working environment and health to be able to see how these were connected to each other and to life satisfaction as well. This research showed that life satisfaction could be positively related to nurse's satisfaction with their career, and nurse's perception of meaningful work. This study showed evidence of the fact that if the nurses felt pride for doing a good job and if they had support at their workplace then their levels of life satisfaction were also increased. Thus, both personal factors and work-related factors contributed to elevated levels of life satisfaction in this sample of nurses. Lyubomirsky, King & Diener (2005) found for example that increased levels of life satisfaction were connected to low levels of job dissatisfaction at work. Life satisfaction was also connected to improved levels of retention and higher levels of productivity.

When it comes to the field of nurses' burnout related to life satisfaction, the literature and research is very scarce. This dissertation aims at comparing levels of life satisfaction between the Hungarian and Swedish emergency nurses and to connect life satisfaction to burnout. Thus, this dissertation is contributing to the limited research done in the field of burnout connected to life satisfaction, and it is offering a new angle by looking more specifically into the life satisfaction of Swedish and Hungarian emergency nurses, and their reported burnout in connection to this.

2.8. BURNOUT AND PERSONALITY

According to Maslach (1982) the burnout syndrome does not take place for everybody all the time. There are obvious individual differences in the outline of burnout and these individual differences seem to be connected to differences in personality among people. The personality is here referred to as the mental, emotional, and social aspects that make up the person itself. A person's interpersonal approach, how she is handling problems, how she is expressing and controlling her emotions, and a person's idea of herself are all very important facets of personality which have great importance for the development of burnout.

Also according to Brewer & Shapard (2004) the individual factors can be linked to burnout by specific personality characteristics. Suggested personality characteristics have for example been introversion and extroversion, where people who are introverted are more prone to

develop burnout (see for example Layman & Guyden, 1997). Burke & Richardsen (1996) have shown that people who are sensitive, idealistic, too enthusiastic, empathic, anxious, and obsessive have a higher risk of developing burnout. Maslach (1982) is also mentioning personality factors being more prone to burnout. A person who is weak and unassertive when she is dealing with others, who is not able to take control over different situations is more prone to burnout. Such a person might also be more impatient and intolerant, and get easily angry or frustrated. Also self-esteem plays a big part and a person who has a low self-esteem, little ambition, and who is reserved runs bigger chances of being burned out.

Maslach (1982) pointed out that all of the personality characteristics mentioned in connection to burnout, must in some way occur together for a person to be prone to burnout. One should not take for granted that only those people who have the above mentioned personality characteristics are the only people who will burn out. Everybody runs a risk to burnout, to a certain point, if emotional stress at ones workplace becomes disproportionate. However, the difference might be that people with a certain personality structure will run higher chances of burning out irrelevant of the level of the stress at work. Also, one should not presume that every single one of the personality characteristics mentioned above have to be present in order for a person to be at risk for burnout, since any of the personality characteristics might make a person more prone to burnout. Several researchers have mentioned the importance personality plays in the development of burnout (see for example Bakker, Van Der Zee, Lewig & Dollard, 2006; Baramée & Blegen, 2003; Harrison, Loiselle, Duquette & Semenic, 2002; Houkes, Janssen, de Jonge & Bakker, 2003; Schmitz, Neuman & Opperman, 2000). According to these researchers personality might offer a very important explanation of burnout.

According to Garrosa et al. (2006) positive psychology is contributing to the field of personality and burnout by the area of the hardy personality. It has been shown, for example, that if nurse's hardy personality is increased then it might lessen the risk of work-related burnout, by lessen the experience of stress it self. The hardy personality might reduce occurrence of emotional exhaustion, depersonalization, and increase personal accomplishment. Garrosa et al. (op. cit.) suggested that interventions to decrease burnout might be more efficient if they would be directed at increasing nurses' personality instead of only concentrating on diminishing work-related stress factors. Thus, the hardy personality can have an important implication for the whole organization in that personality attributes like

commitment, control, and challenge, which are all part of hardiness, can be transformed to co-operation, credibility, and creativity at an organizational level.

Maslach et al. (2001) stated that the area of personality in relation to burnout has been studied in order to find which type of personality may experience burnout to a higher degree, i.e., which the burnout personality is. Also Maslach et al. (op. cit.) has mentioned hardiness in connection to burnout and said that nurses who showed decreased hardiness were experiencing higher levels of burnout; these nurses had especially higher levels of emotional exhaustion. Another personality mentioned by Maslach et al. (op. cit.) which has been associated with burnout is having external locus of control. This personality factor means that a nurse is attributing different events and achievements to others or to pure chance. In contrast to having external locus of control, a nurse might have an internal locus of control, which means that a nurse is attributing different events and achievements to her own ability and effort. Also the area of self-esteem has been associated with burnout, where high levels of emotional exhaustion and depersonalization, and low levels of personal accomplishment have been associated with lower levels of self-esteem. In connection to all these personality factors it has been shown that low hardiness, lower self-esteem, and having an external locus of control, is associated with a stress-prone personality.

According to Maslach et al. (2001) another personality type which has been associated with burnout is the Big Five personality dimensions like neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. In the research of burnout it has been shown that burnout has been associated with the personality dimension of neuroticism. The personality dimension of neuroticism includes characteristics like anxiety, hostility, depression, self-consciousness, and vulnerability, and it is said that neurotic nurses are emotionally not as stable and that they are prone to experience a lack of psychological well-being. Other personality areas which have been looked into in connection to burnout are Type-A behaviour and rational versus emotional personality types. When it comes to Type-A personality it has been shown that this personality type has been associated with the emotional exhaustion dimension of burnout. When it comes to rational versus emotional personality types, it has been shown that nurses who are emotional types are experiencing burnout to a higher degree.

Simoni & Paterson (1997) have also reported about findings on personality associated with burnout. More specifically they reported about intensive care unit nursing burnout compared to nurses working in non-intensive care units and hardy personality. They found that it was hardiness and not specific work-related stressors which accounted for significant associations with burnout in the intensive care and non-intensive care unit nurses. Nurses working in both wards who reported lower burnout scores consequently reported higher hardiness scores. Simoni & Paterson (op. cit.) also conducted another research which looked at burnout in geriatric nurses and psychosocial factors in association with it. This research found that hardy personality was the single most significant predictor of burnout. In a different study conducted by Simoni & Paterson (op. cit.) with 529 nurses, they looked at the associations between hardiness, burnout, and direct-active coping. In this study it was shown that no matter which coping strategy the nurses used, the nurses who had higher hardiness scores accounted for decreased stress and decreased burnout scores, than did the nurses who had lower hardiness scores.

Browning, Ryan, Greenberg & Rolniak (2006) looked into the role of personality in connection to potential burnout, by looking at cognitive adaptation disposition such as mastery, optimism, and self-esteem. The researchers predicted that nurses with stronger cognitive adaptation disposition could keep their expectations to a higher degree and therefore experience burnout to a less degree. They included 300 nurses in their cross-sectional research and they defined the potential burnout by looking at the control over work variable. The researchers found a positive association between burnout and perceived loss of control. When it comes to the researchers expectations of cognitive adaptation it was also found to be supported. More specifically, Browning et al. (op. cit.) found that cognitive adaptation was related to lower burnout scores, i.e., decreased emotional exhaustion and depersonalization, and increased personal accomplishment without any connection to the nurses' original expected perceived control. Also, the results showed that cognitive adaptation in its general form was connected to increases in present expectations and as such decreased levels of not met control expectations. All of these results were shown to be independent of the years working as a nurse and which specialization the nurse had. On the other hand, mastery was shown to offer buffering against burnout in part of the researchers result. Thus, mastery had a buffering effect on increased perceived original expectations in relation to present expectations and as such on not met control expectations more precisely. Furthermore, mastery also served as a buffering effect on increased originally perceived control

expectations for emotional exhaustion and depersonalization. In summary the researchers concluded that mastery, which is one of the three dimensions of cognitive adaptation, was shown to play in particular an important role as a protective factor against burnout for those nurses who had originally increased high control expectations. Browning et al. (op. cit.) thus showed in their research that all the dimensions of cognitive adaptation had buffering effects for the nurses with increased original control expectations. Consequently, even though optimism together with self-esteem did not show to offer a buffering effect against burnout for the nurses with increased control expectations, these two variables seemed to have a buffering effect against the loss of control expectations for the nurses with originally increased expectations. The researchers thus suggest that, if these unmet high control expectations are antecedents to burnout then it might be helpful if hospitals were promoting nurses cognitive adaptations in order for the nurses to keep their originally high control expectations and thus decrease the chances of burnout.

Leon, Visscher, Sugimura & Lakin (2008) stated that significant associations have been found in relation to burnout and personality factors like neuroticism and extraversion. Also, Bakker et al. (2006); Lakin, Leon & Miller (2007); Manlove (1993); and Maslach et al. (2001) have found emotional exhaustion and depersonalization to be predicted by neuroticism. Other studies have found associations between lower levels of depersonalization and neuroticism (see for example Bakker et al., 2006; Lakin, Leon & Miller, 2005). When it comes to studies done in the field of extraversion and emotional exhaustion there has been found a negative association between these two factors (see for example Lakin et al., 2007). About extraversion and depersonalization, there has also been found negative associations (see for example Bakker et al., 2006). In connection to extraversion and personal accomplishment also negative associations have been found here (see for example Bakker et al., 2006; Lakin et al., 2007; Zellars, Hochwarter, Perrewe, Hoffman & Ford, 2004).

2.8.1. The Psychological Immune System

It has been shown that personality can serve as a protective factor in health outcomes and that personality is an important factor when it comes to health outcomes research (see for example Antonovsky, 1987, in Olah, 2005; Lee & Seligman, 1997; Peele, 1989). A construct which have also been mentioned in connection to psychological health and environmental stress is

the psychological immune system (Olah, 2005). This is a system including personality dimensions related to cognitive, motivational, and behavioural aspects which all should present a person with immunity to deal with stress. It should also present a person with immunity to be able to promote health and it should build up resistance against stress. The psychological immune system has 16 components and three subsystems which are interacting with each other, namely the approach-belief system, the monitoring-creating-executing system, and the self-regulating system. The first one, the approach-belief subsystem is steering the person's attention to the environment. The second one, the monitoring-creating-executing subsystem is looking for information and incorporates it within the person, and it implements the resources to generate opportunities in the surrounding environment. The third one, the self-regulating subsystem makes sure that the two first subsystems are working properly by keeping the emotional life of the person stable. It is all these three subsystems which make sure that a person can use effective adaptation and coping resources. More precisely, the psychological immune system is creating a balance between the person and his/her environment to be able to generate higher levels of adaptive strength. This adaptive strength makes sure that the protective factors are in tune with a person's principles and the demands from the environment. The psychological immune system is one system which provides the individual with a protection against stress and the subsystems should make it easier for people to handle stress in a better way, to alleviate the effects of stress, and to make it possible for a faster recovery for a person after encountering stress (Olah, op. cit.).

Olah (2005) is describing the three different subsystems in more detail, by giving in depth information in connection to them. When it comes to the **approach-belief system (ABS)** it makes the appraisal of the environment easier for the person by making the environment either good (positive, manageable and meaningful) or bad (chaotic and threatening). However, this subsystem is promoting the positive sides of a person by comprehending him/her as competent, goal-oriented, who is constantly a growing individual. For a person to be able to have an approaching direction in life he/she needs to apply positive thinking, a sense of control and coherence, and a sense of self-growth. When it comes to the **monitoring-creating-executing subsystem (MCES)** it focuses on the inner personal and social strengths to be able to accomplish a fit between a person's goals and the demands from the environment. This subsystem also consists of a capability of coming up with different solutions to situations, different ideas and opportunities, all which make it possible for the person to handle difficult social and adaptation circumstances. When it comes to the **self-**

regulating subsystem (SRS) it stabilizes the approaching, monitoring, creating, and executing aspects of a person in a way that it regulates those feelings that stands in the way of carrying out those actions which have been planned. For a person to be able to self-regulate in an effective way, he/she needs to control the approaching, monitoring, creating, and executing behaviours as much as possible, and regulate them as much as they are required to.

According to Olah (2005) the psychological immune system can be related to burnout in that people who are experiencing burnout should report low scores on most of the scales of the Psychological Immune Competence Inventory (PICI) (op. cit.). Thus, low burnout should be related to high levels on the self-regulating subsystem and with positive monitoring.

When it comes to the area of connecting burnout to personality, this dissertation is unique since it is using the psychological immune system as the personality dimension. It is offering a new approach in the study of burnout by looking at the 16 different personality components and the three personality subsystems related to psychological immunity in Swedish and Hungarian emergency nurses. By doing so this dissertation is offering a new explanation of a possible protective personality factor in the study of burnout. Since no previous research has been found in connection to the psychological immune system when comparing Swedish and Hungarian emergency nurses' burnout levels, this dissertation is contributing with a new direction to the existing burnout literature and research.

2.9. SOCIAL SUPPORT

2.9.1. Social support related to health

Karasek & Theorell (1990, in Bradley & Cartwright, 2002) looked into to the area of health and psychological demands, in their demand-control model. They argued that increased levels of psychological demands together with decreased levels of opportunities to make decisions can be connected to poor health outcomes. Johnson & Hall (1988) also agreed with this assumption of Karasek & Theorell's model (op. cit.) however, they included social support into the model and named it demand-control-support model. According to these researchers the social support in the expanded model is standing for a general helpful collegial social interaction with supervisors and colleagues. Also Rose, Ahuja & Jones (2006) argued for a

positive effect of social support in that that if a person is receiving higher social support he/she has an enhanced psychological well-being.

According to Bradley & Cartwright (2002) social support has been widely recognized as being a mediator between work stressors and work stress outcomes. Social support at ones workplace has been well accepted as a variable related to work stress. To better understand the concept of social support at a person's workplace, one can look at the job demand-control model of stress. The previously mentioned model says that an increased job strain is a direct result of low social support, high work demand, and low control (Karasek & Theorell, 1990).

If one looks at social support and health in general, one can see that there is evidence for that social support has an effect on health by looking at data from epidemiological studies (Dean, Holst, Kreiner, Schoenborn & Wilson, 1994). According to Bradley & Cartwright (2002) one can say that the research on social support comes from a universal theory of social support where researchers have used variables like for example attendance to church and marital status as substitute variables for looking at social support and to explain social integration in the society. Another approach which has been used to look at social support has been a more qualitative one. This approach is using many different ways of defining social support, all the way from using global perspectives of the concept to multidimensional models which are more specific in their explanations of social support (e.g., emotional support, informational support, network support etc). According to Veile & Bauman (1992, in Bradley & Cartwright, 2002) social support can be interpreted in many different ways and has been done so in the literature, and the concept has been used to describe characteristics of people, the environment or the interaction between these two.

Shumaker & Brownell (1984) stated that the majority of the research done in the field of social support and health has assumed that social support has a beneficial effect on health. However, the process by which this influence is said to be positive is not well-known. Rationalization of how social support is influencing health has been taken from two different models of social support, the direct model of social support and the indirect (also called the buffer model) model of social support. The effect that social support has on health can be looked on at different levels, like for example at a physiological level and at a social level. The physiological level for example states that the social support itself gives a person opportunities for attachments and relationships (Fiske, 1998) and that those attachments and

relationships then has a beneficial effect on our immune system (Argyle, 1992, in Bradley & Cartwright, 2002). Looking at the indirect model of social support, Bradley & Cartwright (2002) explained it as social support being a conditioning factor influencing the association between health and stressors. The field within social support has frequently been discussing if the association between social support and health can be best clarified by the direct model or the indirect model. Thus, whether social support has an effect on health only when a person is under stress or whether social support has an effect on health irrespective of a person's stress levels continues to be a relevant topic in the field of social support and health. Viswesvaran, Sanchez & Fisher (1999) conducted a research to look at the relationship between health and social support in relation to the two different models, and they found evidence which supported the positive effects of both the direct and indirect model of social support.

According to Parikh et al. (2004) variables which are outside a nurse's working place, like for example family life, have an effect on the nurse's experienced level of stress at her workplace. It has been shown that the connection between a nurse's obligations at her work place and her family life most of the time worsen the nurse's occupational stress levels. Parikh et al. (op. cit.) conducted a research in nurses which showed that the most important factor contributing to work related stress was incompatible demands between the nurse's family life and working life, and a pressure of being able to perform ones best in both fields.

2.9.2. Burnout and Social support

Demir et al. (2003) looked into the area of burnout in association with social support from ones family. They found that the level of depersonalization was low for those nurses who received support from family members while doing household work. When it comes to personal accomplishment, the researchers showed that the nurses who received support from a husband or a child had the highest levels of personal accomplishment. However, it was also shown that the nurses who receive social support from close relatives scored lower on personal accomplishment in comparison to those nurses who did not receive any social support at all. Thus, it seems that close relatives may have a negative effect on these nurses' lives. Regarding emotional exhaustion, the nurses who felt that it was difficult for them to do household work had higher levels of emotional exhaustion.

Several authors have shown the effects of social support from family having an effect on nurses' burnout. It has for example been shown that receiving social support from ones family might be helpful when coping with burnout (see for example Bryant, 1994). Other researchers have found that the social support provided by a spouse or partner could be associated with emotional exhaustion and personal accomplishment (see for example Beaver, Sharp & Cotsonis, 1986). Other studies have looked into the significant role of social support provided by a spouse or family in association with managing burnout (see for example Barnett, Hopkins & Jackson, 1986). Some studies have shown the negative effects of tensed relationships with a spouse or family on nurses' health (see for example Walters, Lenton, French, Eyles & Mayr et al., 1996). Research has also shown that job satisfaction could be linked to social support and further linked to having a positive effect on stress reduction and burnout (see for example Stewart & Arklie, 1994).

Halbesleben & Buckley (2004) pointed out the vast amount of research done over the past 10 years in the field of social support and burnout, and the role social support plays in the development of burnout. These studies have looked at the impact of social support from organizations, supervisors, co-workers, friends and family, on the health care worker. Numerous studies have found a significant correlation between social support and burnout (see for example Baruch-Feldman, Brondolo, Ben-Dayana & Schwarz, 2002; Carlson & Perrewe, 1999; Schaufeli & Greenglass, 2001), while other studies have found more inconclusive associations (see for example Burke & Greenglass, 1996; Koniarek & Dudek, 1996).

According to Maslach et al. (1996) different types of social support have different relationships with burnout and its three features (emotional exhaustion, depersonalization and personal accomplishment). Leiter & Maslach (1988) have for example found that a positive relationship with supervisors had a negative effect on depersonalization and that a negative relationship with supervisors had a positive effect on emotional exhaustion. When it comes to relationships with colleagues, it was found that a positive relationship with the colleagues had a positive effect on personal accomplishment. In general it can be said that social support from colleagues and supervisors shows a closer connection to the personal accomplishment factor, and negative relationships with colleagues and supervisors shows a closer connection to emotional exhaustion.

When it comes to social support from family and friends, it has been shown that this kind of support can be an important source for the nurse to deal with the emotional strain of their work in the hospital. It has on the other hand been shown that experiencing difficulties with coping with both work and family has resulted in emotional exhaustion and depersonalization (Burke & Greenglass, 1986, in Leiter, 1990; Leiter, 1990; Leiter & Durup, 1996). Social support has not only been found to have a direct affect on burnout but it has also been shown that social support makes it possible for nurses to be able to cope with more difficult demands (Cohen & Wills, 1985; Kirmeyer & Dougherty, 1988). According to Halbesleben & Buckley (2004) social support is a very important source for reducing burnout and different kinds of social support might serve as more or less efficient way of reducing burnout. Here, the researchers, for example distinguish the effects of work-related support and family related support, both of them effective in reducing burnout, however both in different ways for different health care workers. It has for example been shown that emotional support (associated with family related social support) has been connected to the buffering of burnout and instrumental support (associated with work-related social support) has been connected to the reduction of burnout.

Halbesleben & Buckley (2004) pointed out that the role of social support in connection to burnout has yielded some evidence for social support being counterproductive in burnout. For example Deelstra, Peeters, Schaufeli, Stroebe, Zijlstra & van Doornen (2003) pointed out the role of social support working as a threat. These authors showed that if a health care worker at all times depends on others to help them with their work-related stress, social support can take the role of a possible threat for the health care worker's self-confidence. Hobfoll (1998) also pointed out the negative effects of social support in that if the social support is only hiding the true stressors at the workplace, it might only make the stressors more negative by taking up time, time which a person could have used to deal with them. According to Halbesleben & Buckley (2004) also the temporal component of social support has to be addressed, since it might have a negative long-term effect on burnout. For example, if social support is only given for a short amount of time and then it is being withheld, it might have a negative effect on the health care worker and might still lead the way to burnout since the social support was not accessible for the person under a longer period of time when still needed.

According to Maslach et al. (2001) there is a reliable and well established research background to the fact that burnout can be connected to a lack of social support. The social

support especially important in relation to this is the support of supervisors and not as much the support of colleagues. An issue which has been widely tested and investigated when it comes to social support is the “buffering” hypothesis. This hypothesis says that the relationship between work stressors and burnout will be strong when there is low social support, however, the relationship between work stressors and burnout will be weak when there is a high social support. Thus, according to this theory social support should work as a moderator in the relationship between burnout and the work stressors. The research connected to this hypothesis has according to Maslach (op. cit.) yielded mixed results and further research is thus needed for its validation.

Throughout the literature it can be found that health care workers who state they have a high level of social support both at their work and in their personal life, are less prone to burnout and are more satisfied with their lives (Parikh et al., 2004). Also Harris & Thomson (1993) have shown that a high perceived social support is connected to higher psychological well-being. According to Rose et al. (2006) social support has been shown to have a protective and/or to have a direct impact on health care workers lives (see also for example Browner, Ellis, Ford, Silsby & Yee, 1987; Harris & Rose, 2002; LaRocco, House & French, 1980). Stenfort, Kroese & Fleming (1992) showed for example that to have a good connection with co-workers was rated as the second most common type of social support in a group of health care workers. Jenkins, Rose & Lovell (1997) carried out a research looking at psychological well-being in health care workers. They found two factors which always came out as having an affect on the health care workers psychological well-being, and one of them was social support. When they looked at the factors mostly inclined to cause depression among the health care workers they found it to be a lack of social support.

According to Sundin, Hochwlder, Bildt & Lisspers (2007) social support is an important variable to consider in connection to a health care worker’s health and it has to be taken into consideration in preventing burnout. Numerous studies have looked at the effects of social support in connection to different health outcomes (see for example Cohen & Syme, 1985, in Hochwalder, Bildt & Lissper, 2007; Schwarzer & Leppin, 1989) and even so there is still not a consensus regarding how to define social support or how to measure it (see for example Callaghan & Morrissey, 1993; Hupcey, 1998). Payne & Jones (1987, in Sundin, Hochwlder, Bildt & Lisspers, 2007) state that the different types of social support (which can be from supervisors, colleagues, family members etc.) have to be distinguished in order for the

research being conducted to be more comprehensible. In relation to distinguishing between different types of social support there have emerged two types of theoretical assumptions related to social support, the buffering hypothesis (see above) and the main- or direct-effect hypothesis. As mentioned above already, the buffering hypothesis stands for that social support will only be associated to a person's well-being if/when that person is under stress. The main- or direct-effect hypothesis stands for that social support will have a positive effect on a person's well-being no matter if the person is under stress or not.

Schaufeli & Enzman (1998, in Sundin, Hochwlder, Bildt & Lisspers, 2007) stated that the association between burnout and social support is well-known, however they also stated that this association is foremost supported in analyzes done in a cross-sectional way. When it comes to the three different dimensions of burnout (emotional exhaustion, depersonalization and personal accomplishment), Lee & Ashforth (1996) conducted a research about burnout and social support in which they showed that emotional exhaustion was most significantly associated with supervisory support. Both emotional exhaustion and depersonalization was however most significantly associated with the support of colleagues. When it comes to personal accomplishment, this dimension was the one that was least significantly related to supervisory support and collegial support in their samples of nurses. Other researchers have also found associations between the three dimension of the burnout syndrome and social support. Bourbonnais, Comeau & Vezina (1999), De Jonge, Dollard, Dormann, Le Blanc & Houtman (2000), and Tummers, Landeweerd & van Merode (2002) looked at this phenomenon as well and discovered that emotional exhaustion was significantly associated with work-related social support. In their research, Janssen, Schaufeli & Houkes (1999) revealed that emotional exhaustion was significantly related to both collegial support and supervisory support, however that personal accomplishment could not be associated with either of these two social supports. Research done by Rafferty, Friend & Landsbergis (2001) however showed that there were no strong associations between any of the three dimensions of burnout and social support, after controlling for work control, job demands and demographic variables in a sample of health care workers.

According to Stewart (1993, in Sundin, Hochwlder, Bildt & Lisspers, 2007) the importance of different kinds of social support related to burnout when it comes to nurses and other health care workers, has been researched by different researchers in countries throughout the world. In Europe, this area has been researched by for example De Jonge et al. (1996), Janssen et al.

(1999), Tummers et al. (2002), and Sundin et al. (2007). In America this topic has been looked into by for example Cronin-Stubbs & Brophy (1985), Cronin-Stubbs & Rooks (1985), and Baba, Galperin & Lituchy (1999). In Sweden, Sundin et al. (2007) showed that when the nurses had an awareness of possibly being in receipt of a high level of collegial and supervisory social support, it was associated with lower emotional exhaustion and lower depersonalization, but higher personal accomplishment. From these associations, the social support was most significantly associated with emotional exhaustion. Supervisory support could only be related to this specific dimension (emotional exhaustion) of the burnout syndrome and collegial support could be significantly associated with all of the three dimensions of burnout.

Demir et al. (2003) looked at the connection between social support at home and burnout in nurses. They found that nurses who received social support from two or more people at home had lower levels of depersonalization. When it comes to personal accomplishment, those nurses reported the highest levels of this dimension who received help from either their children or husband at home. When it comes to emotional exhaustion, those nurses experienced highest levels of this dimension who found it difficult to manage household work. The researchers proposed that nurses who are receiving social support at home have a better physical and mental well-being, and that this social support also has a positive influence on the nurse's work performance. Since receiving help from either ones children or husband is a sign of a supportive family, a healthy family life can have a positive effect on nurse's levels of personal accomplishment. In relation to this Demir et al. (op. cit.) also showed that nurses who received social support from a close relative had higher levels of personal accomplishment in comparison to those nurses who did not receive any kinds of social support.

Demir et al. (2003) suggested that social support from the family is important for nurses to cope with burnout. They found that social support given from the family could be connected to lower emotional exhaustion and higher personal accomplishment in nurses. The researchers also highlight the importance of social support from the family when nurses are dealing with burnout. They also pointed out that bad relationship with family members has a negative effect on nurse's health in general and that if a nurse is experiencing problems within her family it serves as a great stressor in her life.

When it comes to the area of connecting burnout to social support, this dissertation is looking at the levels of social support in Hungarian and Swedish emergency nurses and is then looking at this in connection to burnout. Prior research in connection to this topic has not been found and thus this dissertation is contributing to the gap in the literature and it is also contributing with important nation-based information in the research field of social support and burnout.

2.10. BURNOUT AND DEMOGRAPHIC VARIABLES

According to Brewer & Shapard (2004) the demographic factors have been reported in connection to burnout at several occasions. Cordes & Dougherty (1993) have shown that people who are married reported less burnout than single people. Jackson (1993) has established considerable differences in burnout levels connected to demographic factors such as gender, age, and marital status; while other researchers have not found any connection between demographic factors and burnout (see for example Dillon & Tanner, 1995; Friedman & Farber, 1992).

Brewer & Shapard (2004) stated that, considerable researches have brought up age or years of experience as having an effect on burnout. Some researches have not found any relationships between age or years of experience and burnout, while other studies have found such relationships (see for example Konert, in Brewer & Shapard, 1997; Laub, 1998, in Brewer & Shapard, 2004). According to Maslach et al. (2001) demographic variables have been extensively studied in relation to burnout research. Among all the demographic variables which have been looked into, age is the variable which most of the researchers have been able to continuously connect to burnout. Looking at younger nurses, burnout has been shown to be higher in that age group than for nurses who are older than 30 or 40 years. Since age seems to be related to work experience, burnout seems to affect nurses with less working experience to a higher degree than older nurses. Although Maslach et al. (op. cit.) pointed out that this interpretation has to be made carefully since the nurses who are affected by burnout only after working as a nurse for some years probably leave their jobs as a nurse. Consequently, the nurses who are still working at the hospitals are the ones which most probably could survive the adverse effects of their jobs and thus they show lower levels of burnout.

According to Maslach (1982), when it comes to **gender** then there are only moderate differences between men and women in burnout, meaning that men and women experience burnout relatively in a similar fashion.

When it comes to **age**, it has been shown that there is an obvious connection between age and burnout. More precisely, it has been shown that burnout occurs more frequently among younger workers than older ones. The reason for this has been stated to be the experience, where younger workers have less experience than older workers. Also, older workers are more stable and mature, they seem to have a more balanced outlook on their lives and they are less prone to the effects of burnout. Another explanation for the fact that older workers seem to report less burnout than younger workers, might be that in many workplaces there seem to be a critical year for burnout between the first and fifth year at one workplace. Thus, if there is a difficulty for people to deal with burnout in the first five years at a workplace then they have a higher chance of leaving a workplace due to its negative effect on the person. If this is true then the workers who leave their workplace within the first five years will not be around to answer possible questions about the emotional strain of their workplace later when they are older. Thus, the older workers will be the people surviving the tough first years at a workplace and they will be the ones who have been able to deal with the early threats of burnout. Probably these will be the workers who report less burnout than their younger work colleagues.

Marital status also has a clear relationship with burnout. Generally workers who are single are the ones most prone to burnout and married people are less prone to burnout. Single people even show a tendency to score higher on burnout than the people who have been divorced. People who are divorced usually fall between the single and the married group, since they are nearer to single people when it comes to higher emotional exhaustion but they are closer to married people when it comes to lower depersonalization and a higher sense of accomplishment.

Having no **children** has also been associated with an increased risk of burnout. The reasons behind this have been stated to be that people with families are likely to be older, and thus more stable and psychologically more mature. Also, a person's dealing with her husband and children makes her more skilled in handle personal problems and emotional conflicts. Another reason which has been mentioned is that the love and support from family members is helping the person to cope with emotional stress at work, and also a person who has a family has another way of looking at her work than a single person. This might mean that a person with a family is not as dependent of her workplace as a place for providing personal social life, since

her family gives her affection and approval. When it comes to **education**, it has been shown that people with different quantity of education does not differ very much when it comes to burnout. However, generally it can be said that burnout seem to occur among those people who have a college education but does not have postgraduate training. These people are more inclined in having higher emotional exhaustion, most depersonalization, and least personal accomplishment. There has also been a reported high level of emotional exhaustion for people with postgraduate training; however they have scored the lowest on the other aspects of burnout. Altogether, less education has been connected to less burnout. A potential explanation for theses results might be that people with different quantity of education acquire different kinds of job. In relation to this, the mentioned differences between the groups mirror the emotional strains of their job and not only what kind if education they have. This might explain why the people with the highest education only reported emotional exhaustion out of the three aspects of burnout. They might have jobs with higher emotional stress but the training they have has made it possible for them to cope more effectively with this stress.

Barry (1984) showed that as the level of a nurse's education is increasing so does the nurse's experience of personal accomplishment, workplace satisfaction, and with higher educational status nurses also coped more sufficiently with work related stressors. All of these factors had in turn a reduced effect on the burnout levels of the nurses. Finn (2001) demonstrated that self-sufficiency, professional skill, and education were the factors behind the highest levels of job satisfaction in nurses. Dahl & O'Neal (1993) conducted an interesting research in nurses during the Gulf War and among other things they found that higher educational levels were connected to a more sufficient way of coping with stress and decreased burnout levels.

When it comes to the area of demographic variables and burnout, this dissertation is looking at this area from a nation-based point of view. More precisely, this dissertation is comparing the connection between the demographic variables and burnout, between Hungarian and Swedish emergency nurses. This nation-based comparison has not been done before and thus this dissertation is offering a new insight into the connection between demographic variables and burnout for Hungarian and Swedish emergency nurses.

2.11. HOW CAN WE PREVENT BURNOUT?

2.11.1. Background to the Theory of Prevention Strategies

Murphy, Hurrell, Sauter & Keita (1995) have looked at the background of the theory of work-related stress prevention. They mentioned that the work-related environment and the experiences at the workplace are undergoing fast changes. These changes entail for example downsizing, re-organization, management implementing new philosophies, and higher degree of work-related task variety. Even the speed of the change is now greater than before. Alvin Toffler (1970) created the expression “future shock”, illustrating the devastating stress and confusion in people when they have to face increased change in a short time period. According to Murphy et al. (1995) this “future shock” is nowadays a reality in workplaces. Due to the fact that the modern workplace is changing with such a pace it is causing the workers to face increased stress, which result in negative effects on the worker’s mental and physical health. Thus, today more than ever, workplaces are in great need of interventions which effectively will prevent, reduce, and manage the stress at the workplace. Even though, researchers agree that work-related stress is a growing concern at today’s workplaces, they cannot really agree on which strategy to use to control and reduce the stress. If we look back at the history of interventions used for work-related stress, three different approaches can be detected, primary, secondary, and tertiary prevention. All these three approaches have different focuses and they all use different intervention techniques.

If we look at **primary prevention**, this approach is focusing on changing the source of the work-related stress and it is the most essential approach in the topic of work-related stress. Primary prevention can aim at trying to change those conditions at the workplace which are causing the stress, i.e., be reactive, or primary prevention can aim at trying to prevent conditions at the workplace from developing into being stressful, i.e., be proactive. However, in both the reactive and proactive approach the aim is to look on the causes of work-related stress and not on the effects or the results of stress. To be able to conduct primary prevention, one needs to assess factors at the workplace in order to discover the most important factors causing the stress within the workplace. Some examples of primary prevention can be to re-design the job or a specific task, make the management more participative, and to improve the working conditions. Even though, strategies under primary prevention have clear beneficial effects, applying them at the workplace is expensive and they are often disruptive. This is the

reason why managements at workplaces have been less keen on implementing primary interventions and why management have preferred secondary or tertiary interventions (Murphy et al., 1995).

If we look at **secondary prevention**, this approach is looking at decreasing the severity of work-related stress before having more severe health outcomes. Examples of secondary prevention are stress management programs. The idea of these programs is to train workers in the effects and results of stress, and to teach them relaxation techniques and coping skills in order to handle the effects of stress, both the physiological and the psychological effects. Example of stress management techniques can be muscle relaxation, meditation, and cognitive-behavioural skills training (Murphy et al., 1995). In the 1980's these stress management strategies were very popular due to the uprising of the health promotion movement at that time (Murphy, 1988, in Murphy, Hurrell, Sauter & Keita, 1995). The stress management techniques are easy to use and implement at the workplace, easy to plan and to evaluate, and workers are usually showing a positive attitude towards them. To be able to attain more complete interventions programs, researchers are recommending secondary preventions to be joined with primary prevention strategies (Murphy et al., 1995).

If we look at the **tertiary prevention**, this approach is aiming to treat health outcomes without considering the source of the stress. This approach is reactive since the negative health outcome is already present and thus the main strategies are focusing on the treatment of the negative health outcomes and not to remove or reduce the work-related stress factors (Murphy et al., 1995).

According to Murphy et al. (1995) for interventions of stress to have beneficial long-term effects in preventing and reducing work-related stress, they must include the worker, the work and the organizational factors. The intervention programs must also consider the fact that stress is characterized as being very dynamic. To make it possible for the interventions to be even more successful, workers must get an opportunity to participate in all the phases of the stress intervention strategies, for the workplace to encourage employees to get involved in the intervention taking place. Looking further than the organization itself, national efforts in changing policies and laws to protect workers might also have beneficial and crucial effects of the work-related stress levels. Examples can be to focus on policies directed at health and

work-related safety in order to decrease or avoid stressors from for example downsizing and cut-backs.

According to Maslach et al. (2001) the field of burnout intervention has come up with many different intervention approaches to use in the battle of burnout, either to treat burnout when it has already happened or to look on the prevention of it. The majority of the interventions of burnout focus on the person and they suggest interventions like moving the worker from her workplace, strengthening the worker's inner assets, or changing the worker's behaviour related to her work. All these strategies might show not to be useful since organizational or situational variables have been shown to cause burnout to a higher degree than person-related variables. The person-related intervention approaches are good for helping the worker to lessen the effects of emotional exhaustion; through for example deep relaxation, but depersonalization and personal accomplishment remain un-attended by interventions like this. However, it is assumed that it is much more difficult and more expensive to change organizations than people.

2.11.1.1. Changing People

Maslach et al. (2001) stated that research on burnout has focused on interventions which are targeted at increasing a worker's ability to cope with her workplace and these types of interventions would like to lessen the levels of burnout. Person-centered interventions like this have looked at a worker's ability to cope with demands as a person and other interventions have looked at coping related to teams. The person-centered interventions are built upon three questions: Can individuals learn how to cope in new ways? Can people use this knowledge at their workplace? Is burnout being affected by new coping strategies? When looking at the question if people can learn how to cope in new ways, the answer seem to be that individuals can learn how to cope in new ways and that research about burnout shows that sessions teaching new ways of coping for health care workers are giving these people opportunities to cope in a better way with demands at their workplace. When it comes to whether people can use the knowledge of coping at their workplace, the answer seems to be a bit more complicated. Using newly acquired knowledge at one's workplace is not as easy as it might seem since people are functioning in different ways and since the workplace itself is making the worker to behave in a certain way. From this point of view, for a worker to be able to use

the new knowledge of coping at her workplace, she needs to have a certain level of autonomy and to comprehend the changes which might take place in the organization after implementing the new coping changes. When it comes to the last question, if burnout is being affected by new coping strategies, research in this area have been mixed. Researchers have tried many different intervention approaches, like for example relaxation, time managing, training in assertiveness, interpersonal- and social skills training, teambuilding, and meditation. There have been reports in decreased levels of emotional exhaustion but also reports which have shown the contrary. It is very unusual that an intervention program can account for changes taken place in cynicism or inefficacy. Two major factors have contributed to these results, a limitation in connection to the study design used and not enough longitudinal research being undertaken.

2.11.1.2. Changing Organizations

Maslach et al. (2001) pointed out that when assessing the effectiveness of interventions of burnout, researchers must realize that they have to focus not only on the work environment but also on the worker in it. Thus, the most effective interventions of burnout is the ones where there is a combination of changes in the organization and changes in the person (as mentioned above) because nor the organization or the individual is enough on its own. A positive effect of combining the organization and the individual for intervention purposes is that it builds engagement with the work itself. A workplace which is supporting increases in energy levels, participation, dynamism, commitment, inclusion, and efficiency in the workers should via these positive work-related factors encourage workers well-being and efficiency. An organization building engagement instead of reducing burnout is making it possible to see the liability of an intervention program. It is more accurate to assess the presence of factors than absence of something.

Maslach et al. (2001) stated that examples of organizational interventions might, for example, be that workers are able to sustain higher levels of workload if they find the work they are doing significant or they feel that they are being rewarded for their working efforts. Interventions might then focus on specific areas like this, value and reward, instead of focusing on the workload itself and then focusing on teaching workers ways of coping with the overload, how to work less, or teach workers relaxation techniques. Intervention programs

in the organization are not easy to implement. They often necessitate a great deal of time, effort, and money in their implementation and they often turn out to be complex due to their need of collaboration between many different levels within an organization. However, having said this Maslach (op. cit.) still believes that they have a big potential in future research.

2.11.2. Research in Burnout Interventions

Garrett & McDaniel (2001) conducted a cross sectional research among nurses and they showed that pessimistic work-related social atmosphere could be associated with increased burnout levels. The researchers proposed that social support is a very important factor which could help to improve the social atmosphere at a workplace and that social support also could work as preventing burnout. Thus, it seems to be very important to encourage positive social relations at the workplace in order to evade burnout.

Hätinen, Kinnunen, Pekkonen & Kalimo (2007) looked at Finnish female health care workers and implemented two rehabilitation programs, a traditional one and a participatory one, with both programs aiming at the health care workers who had psychological health problems related to the work. The traditional intervention program is usually used with people suffering from burnout and it is focusing on the person. The main idea of this program was to identify ways for people to cope in a better way with work-related stress. The participatory intervention program, on the other hand, was a new intervention with the aim to decrease the symptoms of burnout and this intervention was working on a person-organization level. The main idea of this program was to reduce the misfit between the work and the person, by looking at those factors causing the misfit mentioned by the worker herself. During the research the health care workers worked together with their workplace and the researchers to decrease this misfit and in order to advance their work-related surroundings. The participatory intervention program was looking at improving the workers control by involving them more in the decision making. The researchers were interested in two things in relation to this research, to compare the results of the traditional and the participatory intervention program on reported working conditions and burnout, and to see how the two intervention programs might lessen the symptoms of burnout. The researchers used relaxation, physical exercise, and stress management discussions in order to help the workers to cope with the work-related stress. Looking at the results of this study, it was shown that the participatory intervention

program had more beneficial effects on the health care workers, due to its combination of person and person-organization in the treatment of burnout. Only the participatory intervention program significantly decreased emotional exhaustion over the 12-month long intervention period. When it comes to cynicism, it was shown that it decreased over the 12-month long intervention period, whereas professional efficacy did not. Thus, these researchers showed that it was the easiest to decrease levels of emotional exhaustion, since this dimension decreased after four months intervention and cynicism decreased only at the end of the intervention program. Looking at the time pressure, it was shown to decrease with the traditional intervention program but not with the participatory intervention. Job control was shown to increase with the participatory intervention and reported work-related atmosphere was shown to improve with both types of interventions. When it comes to burnout, the traditional intervention did not lessen the symptoms of burnout but the participatory intervention did, by increasing job control and thus decreasing emotional exhaustion and cynicism. The work-related atmosphere only had a very small effect on emotional exhaustion and no effect on cynicism. In summary it can be said that the traditional intervention program had some beneficial effects on reported job resources (e.g., job control and work-related atmosphere) and on decreasing job demands (e.g., work-related time pressure). The participatory intervention program had beneficial effects on job conditions (i.e., job control) which respectively had beneficial effects in reducing burnout (i.e., emotional exhaustion and cynicism). The participatory intervention program could, however, not improve reported work-related efficacy, which stands for the self-evaluation and attitudinal aspects of the burnout syndrome.

Peterson, Bergström, Samuelsson, Åsberg & Nygren (2008) wanted to see the effects in reported health, burnout, and reported changes in the working environment after 151 nurses took part in a reflecting peer-support group. The researchers used a problem-based rehabilitation (PBR) approach for their peer-support groups, which was encouraging motivation through offering occasions for social arrangements and through developing coping skills for dealing with demanding conditions at a person's working environment. The PBR approach means that it is the person him- herself who is the expert in the process of their recovery and thus the person should come up with their own aims for their recovery and they have to come up with the techniques for how to attaining the set aims. The results of this study showed that the peer-support group intervention used by the researchers had beneficial long-term effects on the nurses reported work demands, on their health and their involvement

at work, and on the nurses' work-related support. Thus, even though this intervention study wanted to target the individual and not the organization, the mentioned beneficial effects clearly showed that the intervention had positive effects on the organizational level as well. When it comes to the reported health by the nurses, the researchers showed that the peer-support group had a beneficial effect because the health as reported by the nurses was increased after the 12 month intervention program. The levels of emotional exhaustion, anxiety, and depression were decreased whereas vitality levels were increased for the nurses after the intervention. The researchers point out the positive effects of the intervention being due to the fact that it was the nurses who gave suggestions as to which themes should be discussed in the intervention sessions, and thus it was the nurses own thoughts which could be reflected upon in the sessions.

Cohen-Katz, Wiley, Capuano, Baker & Shapiro (2005) looked into the area of Mindfulness-Based Stress Reduction (MBSR). This intervention technique was created by Jon Kabat-Zinn (1990, in Cohen-Katz, Wiley, Capuano, Baker & Shapiro, 2005) and it focuses on the notion of mindfulness, which is described as a person being completely present to his/her experience without judging or resisting. The technique of MBSR is being taught for a period of 8 weeks and the intervention comprise of a 6-hour long withdrawal taking place between week number 6 or 7. People taking part in interventions like this are required to practice the technique of mindfulness 6 days per week and they are also given tapes to assist them in this. The intervention also entails instructions of communication abilities, reactions to stress, and empathy for oneself together with exercises in order for the people involved to incorporate the mentioned concepts.

In their research, Cohen-Katz et al. (2005) wanted to see if MBSR would have a positive effect on burnout and also decrease psychological distress, at the same time as the MBSR intervention would increase attention and mindful awareness, in nurses. The results of the research showed that MBSR was beneficial in decreasing burnout levels, since the nurses in the study reported considerable decreases in emotional exhaustion and depersonalization while increasing their levels of personal accomplishment. The positive results for emotional exhaustion could be seen to last up to three months after the intervention had finished. The positive results for depersonalization and personal accomplishment could not show the same significant beneficial effects after interruption of the intervention. Thus, the researchers concluded that the MBSR intervention appeared to have the most beneficial effect on

emotional exhaustion but that depersonalization and personal accomplishment were also impacted positively, even if not as powerfully. The results also revealed that the MBSR intervention had a considerable beneficial effect on psychological distress and the intervention significantly affected the nurses' mindful awareness.

3. METHOD

3.1 STUDY POPULATION

The samples in this study were Hungarian and Swedish emergency nurses. Nurses were chosen as the target group of this research since nurses are thought of as a high risk group of burnout and stress (Tummers, Janssen, Landeweerd & Houkes, 2001). Emergency nurses especially have been pointed out as a group facing a series of psychosocial risk factors due to the nature of their work (Escriba-Aguir, Martin-Baena & Perez-Hoyos, 2006) and thus emergency nurses were chosen to be investigated in relation to burnout. Also, the literature has shown that burnout and stress levels could be different in relation to different hospital wards (Sherman, 2004). The reason why nurses from two different countries were included in this study was that it wanted to look at the phenomenon of burnout from a nation-based perspective. Also, since cross-cultural research on burnout is still thought of as rather new and since there is a need for more cross-cultural research on burnout (Halbesleben & Buckley, 2004), this study decided to contribute to this cross-cultural gap in the literature. Also, this study chose to include demographic variables, work-related factors, social support, personality factors, and life satisfaction, as possible variables affecting burnout in order to establish more concretely which factors are significant determinates if and when nurses are experiencing burnout.

3.1.1. The Hungarian sample

12 hospitals were contacted via e-mail in the area of Budapest and approximately after two weeks had passed, three hospitals had given a positive answer to the initial e-mail. After the two weeks had passed, the remaining nine hospitals were contacted via telephone. In each of the nine hospitals, the emergency wards were asked for and either the head nurse could be put on the line directly or a time was given when the head nurse could be reached. A time period of about 2 weeks passed until all the head nurses working at the remaining nine hospitals had been spoken to. Out of the nine hospitals contacted over the telephone, four of the head nurses informed me their inclination to participate in this study. Out of the five remaining hospitals, one hospital requested for an official letter from the university containing details about the present study and one hospital requested the director of the hospital to be asked for his

permission to distribute the questionnaires. The remaining three hospitals gave their consent to participate in this study through the head nurse. Thus, altogether eight hospitals out of the 12 contacted ones gave their permission to have questionnaires distributed at their respective emergency wards. After the eight hospitals had given their consent, a time was agreed on for a personal meeting to take place at all the emergency wards together with the head nurse. At the time of the personal meetings, the head nurse was given an example of the questionnaires and it was explained in detail about the purpose of the study. After the meeting, another appointment was decided upon when the correct amount of questionnaires would be brought in to the hospital for distribution. When the agreed date had arrived, the correct amount of questionnaires were brought in to the hospitals and given to the head nurse. All the questionnaires were stapled together for each nurse and the stapled together version of the questionnaires had a cover letter attached to it. The cover letter gave information about the researcher, the study and the questionnaires, and it stated that the questionnaires would be used for the purpose of this study only. The cover letter also ensured the nurses that the questionnaires were anonymous and treated confidentially. Also, a big envelope was given together with the questionnaires to the head nurse, for the purpose of the nurses to put their filled out questionnaires in it. The envelope would be supervised throughout the data collection period by the head nurse and it was put in her room. It was agreed that the head nurse would distribute the questionnaires to the nurses working at the emergency wards and that the hospital would be contacted after two weeks to see if the distribution of the questionnaires was going in a good way, that the nurses were filling out the questionnaires, and that the nurses did not encounter any problems while filling out the questionnaires or had any questions. After the two weeks had elapsed it turned out that there were no problems in connection to the distribution or filling out of the questionnaires and thus the data collection continued undisturbed. However, it did turn out that the nurses wanted more time to fill out the questionnaires and it was agreed that the nurses could take the time they needed. The nurses were also informed that filling out the questionnaires should not interrupt or in any way disturb their everyday job-related tasks and thus they could feel free to take the questionnaires home, as long as they brought them back to the hospital. The data collection at each hospital was thus very individual; however all the filled-out questionnaires had been collected after approximately four months. The head nurses were contacted on a regular basis and thus information was given when the time had come to collect the filled-out questionnaires. When this time had come, the hospitals were again visited and the filled-out questionnaires were handed over personally by the head nurse in the closed envelope given to

the head nurse at the second meeting. From the eight hospitals in the area of Budapest, 103 questionnaires (from a total of 150) were returned filled out. From these, six questionnaires had to be excluded due to missing information and thus 97 questionnaires from Hungarian emergency nurses were included in the final statistical analysis. Only Hungarian female nurses and only Hungarian nurses who were qualified nurses (no assistant nurses) were included in this study.

3.1.2. The Swedish sample

21 hospitals were contacted via e-mail in the area of south and middle of Sweden. Since there was no possibility of visiting the hospitals personally in Sweden, all the communication was done over the e-mail. To the initial e-mail sent to the hospitals, five of the hospitals gave positive responses. After the positive responses of these five hospitals it was agreed that the questionnaires would be sent via e-mail for the hospitals to have a look at them. While waiting for a response from the five hospitals, the rest of the 16 out of the 21 hospitals were contacted again to inquire a second time whether it would be possible to conduct a research at their respective hospital. This second time three more hospitals gave a positive response to the inquiry and it was agreed that the questionnaires would be sent to them to have a look at. While waiting for a reply from the so far eight hospitals, the rest 13 out of the 21 hospitals were contacted in a third round and asked once more if they would consider taking part in the present study. After about two weeks of waiting for a response from the remaining 13 hospitals, four more hospitals gave positive answers about taking part in the study. The questionnaires were then sent to these four hospitals as well. After about two months, two hospitals which had given their consent in distributing the questionnaires for this study sent e-mails saying that they would like to withdraw their participation in the study. The reason stated in the e-mails was that all hospitals in Sweden were officially on strike and that the nurses did not have the time to fill out the questionnaires. The hospitals decisions were final and thus two hospitals had to be removed from the data collection list, and the sample was down to 11 hospitals. When the official decision from the national union of the hospitals in Sweden was reached about all nurses in Sweden going on strike, e-mails were sent to all the 11 hospitals asking the hospitals to please still stay in the study and to take the time they needed in order to fill out the questionnaires. All the 11 hospitals decided to stay in the study but to put the data collection on hold. While this was happening, information was gathered

about the number of the emergency nurses at each of the 11 hospitals and the questionnaires with the cover letter were prepared for copying. After about one month the questionnaires were started to be distributed to the different hospitals. The head nurses were the ones in charge of the data collection and together with them it was decided that the correct amount of questionnaires would be sent to her in an envelope, together with an attached cover letter on each questionnaire bundle via regular post, and with a return envelope inside in which the head nurse could send all the filled out questionnaires back in. The cover letter attached to the questionnaire bundle gave information about the researcher, the study, the questionnaires, and it stated that the questionnaires would be used only for the purpose of this study. The cover letter also ensured the nurses that the questionnaires were anonymous and treated confidentially. The return envelopes all had stamps and the address on them, to where they had to be sent. To make the data collection as smooth as possible, the filled out questionnaires were sent to the home address in Sweden and the questionnaires were brought to Budapest for evaluation after visiting at home. Due to the strike in the Swedish hospitals, the data collection took about six months to complete and from the altogether 312 questionnaires sent out, 116 questionnaires were sent back from the head nurses. The strike had made the majority of the nurses un-willing to fill out the questionnaires but due to the kindness and hard work of the head nurses, a decent amount of questionnaires could still be collected for this study. From the 116 questionnaires sent back from the 11 hospitals, 26 questionnaires had to be excluded due to missing information in them. Thus, 90 questionnaires from Swedish emergency nurses were included in the final statistical analysis. Only Swedish female nurses and only Swedish nurses who were qualified nurses (no assistant nurses) were included in this study.

3.2. QUESTIONNAIRES USED IN THE STUDY

Since the phenomenon of burnout have been looked into by usually using questionnaires, it was decided to use a variety of questionnaires in this study in order to shed light on the phenomenon of burnout from many different aspects. The following questionnaires were decided to be used in this study:

- Demographic variables
- Stress scale for Oncology nurses (Meszaros, 2005)

- Satisfaction with Life scale (Diener, Emmons, Larsen & Griffin, 1985; Pavot & Diener, 1993)
- Psychological Immune Competence Inventory (Olah, 1996)
- Multidimensional Scale of Perceived Social Support (Canty-Mitchell & Zimet, 2000; Zimet, Dahlem, Zimet & Farley, 1988)
- Maslach Burnout Inventory – Human Services Survey (Maslach & Jackson, 1986)

Since opportunity was given to look at burnout from a nation-based point of view, the majority of the questionnaires had to be translated from English to Hungarian and Swedish, and one questionnaire had to be translated from Hungarian to Swedish. The questionnaires which had to be translated from English to Hungarian and Swedish were the Maslach Burnout Inventory – HSS (Maslach & Jackson, 1986), the Satisfaction with Life scale (Diener, Emmons, Larsen & Griffin, 1985; Pavot & Diener, 1993), and the Multidimensional Scale of Perceived Social Support (Canty-Mitchell & Zimet, 2000; Zimet, Dahlem, Zimet & Farley, 1988). The questionnaire which had to be translated from Hungarian to Swedish was the Stress scale for Oncology nurses (Meszaros, 2005). The demographic variables were written in English and Swedish and had to be translated into Hungarian. The Psychological Immune Competence Inventory (Olah, 1996) has an official Swedish version and thus this scale did not have to be translated into Swedish for this study. The translation of the scales from English to Hungarian was done by an accredited English – Hungarian translator and after the scales had been translated, they were distributed to a few nurses at a hospital in Budapest, working within the x-ray ward. After these nurses had filled out the questionnaires it was checked if the purpose of the questionnaires had been understood in a good way and if the questions had been understood and clear. The feedback from the x-ray nurses was positive and no confusions had arisen whilst filling out the questionnaires. To make sure that the quality of the translation was high and that the English and Hungarian versions were matching, two independent Hungarian English teachers were asked to check the questionnaires. Also here the feedback was positive and no changes had to be made in the translation. After these steps, the questionnaires were decided to be ready for distribution among the Hungarian emergency nurses. When it comes to the translation of the scales from English to Swedish, it was done by the author of this study together with a psychologist in Sweden. The questionnaires were then tested on a few nurses working at a general hospital ward in Sweden and the feedback from these nurses were positive, where the nurses stated that the questions were clear and understandable. To be sure that there was an appropriate match between the English and the

Swedish versions of the questionnaires, they were given to a Swedish English teacher for her to check the accuracy of the translation. The feedback from her was positive as well and thus the questionnaires were decided to be ready for distribution among the Swedish emergency nurses.

3.2.1. Demographic variables

The questionnaires distributed among the emergency nurses inquired about some demographical background about the nurses. More specifically it asked about the nurse's age, marital status, how many children they have (if they have), the highest level of education, how many years worked as a nurse, years worked at her current workplace, and hours worked on average per week (see APPENDIX B, page 1).

3.2.2. The Stress scale for Oncology nurses

The Stress scale for Oncology nurses (Meszaros, 2005) is looking at different characteristics of nurses' workplace. The nurses have to estimate to what degree their work at the hospital is stressful for them. The questionnaire is made up of 36 items, which have to be evaluated on a 5 point scale ranging from 1 (not at all stressful) to 5 (very stressful). The reliability of the whole scale has been checked and a value of .93 has been attained. The reliability of the nine subscales has also been checked and they have been shown to attain the following reliability scores: Death and dying, .65; Conflicts with the doctors, .78; Problems with the colleagues, .70; Relationship with the patients, .61; Work and private life, .74; Relationship with the patient's relatives, .58; Being unprepared and feeling inexperienced, .70; Workload, .77; and Stress related to tasks, .71 (see APPENDIX B, page 1-2).

3.2.3. The Satisfaction with Life scale

The Satisfaction with Life scale (Diener, Emmons, Larsen & Griffin, 1985; Pavot & Diener, 1993) was used in this study to look at to what degree the Hungarian and the Swedish nurses were satisfied with their lives in general. The Satisfaction with Life Scale was developed to

assess people's satisfaction with their lives as a whole. The scale does not measure satisfaction with specific areas of life but gives the opportunity for people to integrate and weigh different aspects of life in whatever way they want. The scale is a 5 item questionnaire where the nurses had to evaluate them ranging from 1 (strongly disagree) to 7 (strongly agree).

The measurement of subjective well-being, being an overall measure of life satisfaction, has shown moderate to high reliability. Life satisfaction has shown to correlate .58 over a four-year period, and this correlation remained strong (.52) when subjects' reports of life satisfaction were gone through a second testing. Researchers have suggested that subjective well-being is a construct undergoing change; however it has also been shown that it is reliable when looking at it over a longer period of time (Magnus, Diener, Fujita, & Pavot, 1993) (see APPENDIX B, page 2).

3.2.4. The Psychological Immune Competence Inventory

The Psychological Immune Competence Inventory (PICI) (Olah, 1996) is a combined system of personal capabilities. It is made up of cognitive, motivational, and behavioural personality aspects which should offer the nurse with immunity against stress, encourage healthy development, and provide stress-resistant assets. The PICI is a construct inline with the working model of the psychological immune system. The PICI questionnaire has 80 items concerning how the person is evaluating herself and the world surrounding her. Each item has to be evaluated on a 4 point scale ranging from 1 (completely does not describe me) to 4 (completely describes me).

The reliability of the 16 scales has been checked and also the test-retest stability of the scale over a two week interval has been checked. When it comes to the reliability of the scale, the 16 scales have shown high internal consistency with alpha reliabilities ranging from .62 to .80 for a whole sample. The mean alpha across the scales was .73 in the same mentioned sample. When it comes to the test-retest results, also here high stability has been reported. Correlations for the 16 scales over a two week period ranged from .77 to .89, where the mean across scales was .84. Also, the PICI questionnaire has been checked in relation to IQ and it has been

shown that most of the scales of the PICI were not related to IQ, which proves the divergent validity of the 16 scales (see APPENDIX B, page 2-4).

3.2.5. The Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) (Canty-Mitchell & Zimet, 2000; Zimet, Dahlem, Zimet & Farley, 1988) is a questionnaire used to look at people's self-reported degree of social support. The MSPSS has 12 items which should be evaluated on a 7 point scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The questionnaire has three subscales which measure self-reported social support from Friends (e.g., "I can count on my friends when things go wrong"), Family (e.g., "My family really tries to help me"), and a Significant Other (e.g., "There is a special person who is around when I am in need"). Thus, the items in the questionnaire are split into factor groups in relation to who is giving the social support, i.e., family (Fam), friends (Fri), or significant other (SO). Each subscale is made up of four items and has a possible range of 4 to 28. The higher the score is, the higher the level of perceived social support is. The reliability has been checked for the MSPSS and in one study it was reported to be .90 for the Friends subscale, .94 for the Family subscale, and .95 for the Significant Other subscale. In another study the reliability was found to be .93 for the whole questionnaire, .91 for the Family subscale, .89 for the Friends subscale, and .91 for the Significant Other subscale. The validity of the MSPSS has also been checked and it was shown that the correlation for the Family subscale was .76, the correlation for the Friends subscale was .33, and the correlation for the Significant Other was .48 (see APPENDIX B, page 4-5).

3.2.6. The Maslach Burnout Inventory – Human Services Survey

The Maslach Burnout Inventory – Human Services Survey (MBI – HSS) (Maslach & Jackson, 1986), is measuring the three different dimensions of the burnout syndrome: emotional exhaustion, depersonalization, and personal accomplishment. Each of these three dimensions is measuring different aspects. Emotional exhaustion is measuring feelings of being emotionally exhausted by the work. Depersonalization is measuring an impersonal response towards patients. Finally, personal accomplishment is measuring feelings of competency and

positive accomplishment in the nurse's work with her patients. Burnout is thought of as a continuous variable, going from low to moderate to high levels of the experienced feeling. A low level of burnout is attained by scoring low on emotional exhaustion and depersonalization, and by scoring high on personal accomplishment. A moderate level of burnout is attained by scoring average scores on all the three dimensions of burnout. A high level of burnout is attained by scoring high on emotional exhaustion and depersonalization, and by scoring low on personal accomplishment. Additionally, since there is inadequate knowledge about the interaction between the three dimensions of burnout, the scores for each dimension is considered individually and they are *not* combined into one, total score. Consequently, three scores are calculated for each person.

The MBI-HSS has 22 items which have to be evaluated on a scale ranging from 0 (never) to 6 (every day). When it comes to the reliability of the scale, reliability coefficients for the three dimensions have been reported in regard to different samples. In one sample the reliability coefficients were .90 for emotional exhaustion, .79 for depersonalization, and .71 for personal accomplishment. Results for test-retest reliability for the scale have been reported for five samples. For the first sample the test-retest coefficients were ranging from low to moderately high and were .82 for emotional exhaustion, .60 for depersonalization, and .80 for personal accomplishment, for a two to four weeks interval. For the second sample the test-retest coefficients for the three dimensions were .60 for emotional exhaustion, .54 for depersonalization, and .57 for personal accomplishment, for an interval of one year. For the third sample the test-retest coefficients for the three dimensions were .74 for emotional exhaustion, .72 for depersonalization, and .65 for personal accomplishment, for an eight month interval. For the fourth sample the test-retest coefficients for the three dimensions were .59 for emotional exhaustion, .50 for depersonalization, and .63 for personal accomplishment, for a six month interval. For the fifth sample the test-retest coefficients for the three dimensions were .75 for emotional exhaustion, .64 for depersonalization, and .62 for personal accomplishment, for a three month interval. The mentioned values do not differ noticeably, but for most of these five studies the highest test-retest correlation was for emotional exhaustion. Longitudinal studies of the MBI-HSS have found a high degree of reliability within each dimension which does not seem to get noticeably weaker from a period of one month to one year. This stability is consistent with the MBI-HSS's purpose of measuring a lasting state (see APPENDIX B, page 5).

4. RESULTS

The computer programs SPSS 15, AMOS 7.0 and Microsoft Excel 2003 were used when making the statistical analysis for this study.

4.1. RELIABILITY AND VALIDITY

The internal reliability of the subscales was checked using Cronbach alpha coefficients. It was found that most of the values ranged between 0.60 and 0.95 in both the Hungarian and Swedish sample. The factor which had the lowest Chronbach alpha value was **Sense of Control** ($\alpha=0.44$ in the Hungarian sample and $\alpha=0.21$ in the Swedish sample), but the rest of the factors had satisfactory reliability. In the Swedish version of the test, the Cronbach alpha values were lower and the internal reliability was moderately weak in the following eight subscales: **Relationship with the patients** ($\alpha=0.55$), **Workload** ($\alpha=0.52$), **Sense of Coherence** ($\alpha=0.55$), **Sense of Self-Growth** ($\alpha=0.54$), **Goal Orientation** ($\alpha=0.52$), **Impulse Control** ($\alpha=0.50$), **Irritability Control** ($\alpha=0.55$), and **Depersonalization** ($\alpha=0.55$) (see Table 1 and Sections 1, 2, 3, 4, and 5 in APPENDIX C).

Table 1: Cronbach alpha coefficients of the different scales used in this study

Questionnaires/Scales	Cronbach alpha coefficients	
	Hungarian version	Swedish version
Work-related stress questionnaire		
Death and dying	0.63	0.60
Conflicts with the doctors	0.84	0.72
Problems with the colleagues	0.67	0.65
Relationship with the patients	0.68	0.55
Work and private life	0.72	0.62
Relationship with the patient's relatives	0.60	0.68
Being unprepared and feeling inexperienced	0.73	0.61
Workload	0.73	0.52
Stress related to tasks	0.71	0.61
Satisfaction with Life scale	0.90	0.88
Psychological Immunity Competence Inventory		
Positive Thinking	0.72	0.73
Sense of Control	0.44	0.21
Sense of Coherence	0.65	0.55
Creative Self-Concept	0.78	0.80
Sense of Self-Growth	0.59	0.54
Change and Challenge Orientation	0.69	0.80
Social Monitoring Capacity	0.79	0.77
Problem Solving Capacity	0.84	0.72
Self-Efficacy	0.66	0.71
Social Mobilizing Capacity	0.67	0.65
Social Creation Capacity	0.73	0.78
Synchronicity	0.68	0.60

Goal Orientation	0.63	0.52
Impulse Control	0.61	0.50
Emotional Control	0.72	0.66
Irritability Control	0.62	0.55
Multidimensional scale of Perceived Social Support		
Family	0.95	0.93
Friends	0.88	0.92
Significant other	0.92	0.95
Maslach Burnout Inventory		
Emotional exhaustion	0.88	0.81
Depersonalization	0.67	0.55
Personal accomplishment	0.61	0.58

4.1.1. Correlations of the test's subscales

To avoid redundancies in the text, correlations were made of the test's subscales. All the tests were examined by correlating their subscales with each other (see Tables 1, 2, 3, and 4 in APPENDIX C).

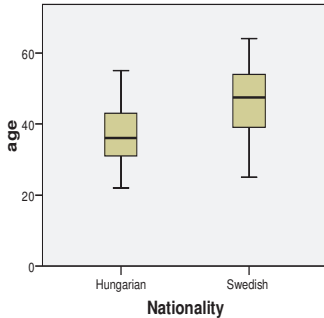
4.2. DESCRIPTION OF THE HUNGARIAN AND SWEDISH SAMPLE

The two samples were compared by age and the number of years spent in the current workplace, using independent sample t-tests. It was found that there were significant differences in both variables, where the Swedish nurses (Mean= 46.78, SD= 9.449, $p<0.01$) were on average older than the Hungarian nurses (Mean= 36.90, SD= 8.342, $p<0.01$). It was also found that the Swedish nurses (due to the fact that they were older) also had significantly more work experience at their current workplace (Mean= 12.66, SD= 9.991, $p<0.01$) than the Hungarian nurses (Mean= 6.93, SD= 6.852, $p<0.01$) (see Table 2 below and Table 163 in APPENDIX C).

Table 2: Descriptive statistics and t-tests of age and number of years at the current workplace in the Hungarian and Swedish sample

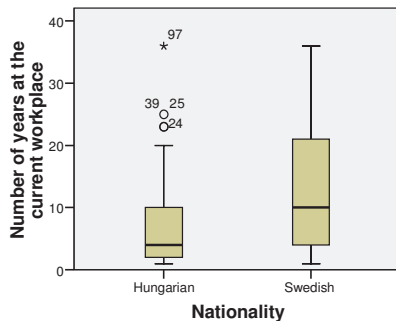
Variable	Hungarian sample		Swedish sample		t-test for Equality of Means		
	Mean	St. Dev.	Mean	St. Dev.	t	df	Sig. (2-tailed)
Age	36.90	8.342	46.78	9.449	-7.593	185	.000
Number of years at the current workplace	6.93	6.852	12.66	9.910	-4.559	156.862	.000

Diagram 1: Age means in the two samples



Since there were significant differences in age (see Diagram 1 left) and number of years at the current workplace (see Diagram 2 below), both these variables could have influenced the comparisons between the two samples. Thus, in the additional statistical tests it is important to keep in mind these inequalities between the two samples.

Diagram 2: Number of years at current workplace means



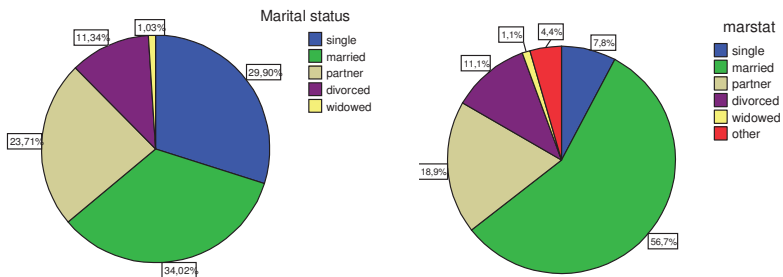
To compare the demographic and experience related attributes of the Hungarian and Swedish nurses, a table of frequencies was made. It was checked whether the two distributions were different or not by using Chi square tests. It was shown that there were significant differences in marital status, in that the Swedish nurses were more likely to be married (56.7%, Chi square=22.02, $p<0.01$) while the Hungarian nurses were single to a higher degree (29.9%, Chi square=22.02, $p<0.01$) (see Diagram 3 below, Table 3 below, and Tables 151-160 in APPENDIX C). This can also be attributed to age, as it is significantly different between the two samples. There was a 0.281 Pearson correlation between age and marriage (dummy variable) in the current samples ($N=187$, $p<0.001$), while age and partnership did not correlate significantly with each other (see Table 161 in APPENDIX C).

Table 3: Frequencies of demographic variables in the Hungarian and Swedish nurses

Variable	Hungarian sample N (%)	Swedish sample N (%)	Chi square	p
Marital status			22.02	0.001
Single	29 (29.9)	7 (7.8)		
Married	33 (34.0)	51 (56.7)		
Partner	23 (23.7)	17 (18.9)		
Divorced	11 (11.3)	10 (11.1)		
Widowed	1 (1.0)	1 (1.1)		
Other	0 (0)	4 (4.4)		

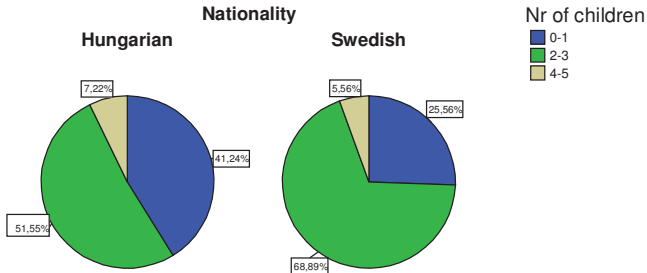
Number of children			5.95	0.05
0-1	40 (41.2)	23 (25.6)		
2-3	50 (51.5)	62 (68.9)		
4-5	7 (7.2)	5 (5.6)		
More than 5	0 (0)	0 (0)		
Education			120.93	<0.001
High school	77 (79.4)	1 (1.1)		
BA	19 (19.6)	62 (68.9)		
MA	1 (1.0)	27 (30.0)		
PhD	0 (0)	0 (0)		
Number of years worked as a nurse			11.35	0.023
1-5 years	10 (10.3)	14 (15.6)		
6-10 years	15 (15.5)	13 (14.4)		
11-15 years	24 (24.7)	12 (13.3)		
16-20 years	21 (21.6)	10 (11.1)		
More than 20 years	27 (27.8)	41 (45.6)		
Number of hours worked/week			81.91	<0.001
Less than 40 hours	4 (4.1)	58 (64.4)		
40 hours	62 (63.9)	29 (32.2)		
More than 40 hours	31 (32.0)	3 (3.3)		

Diagram 3: Marital status distributions in the Hungarian (left) and the Swedish (right) sample



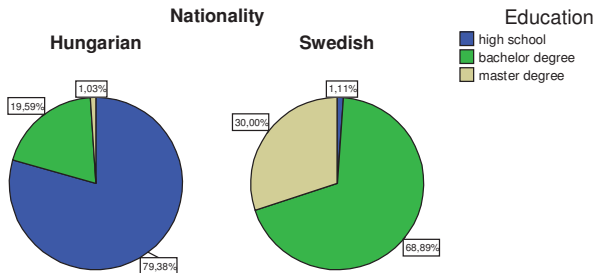
It was also shown that there were significant differences in the number of children, where the Swedish nurses had more children (68.89%, Chi square=5.95, $p<0.05$) than the Hungarian nurses (51.55%, Chi square=5.95, $p<0.05$) (see Diagram 4 below, Table 3 above, and Tables 151-160 in APPENDIX C). Having more than one child (dummy variable) was significantly correlated with age ($n=187$, $r=0.407$, $p<0.01$), being married ($n=187$, $r=0.371$, $p<0.01$) and being in a relationship ($n=187$, $r=0.237$, $p<0.01$) (see Table 161 in APPENDIX C).

Diagram 4: Number of children in the two samples



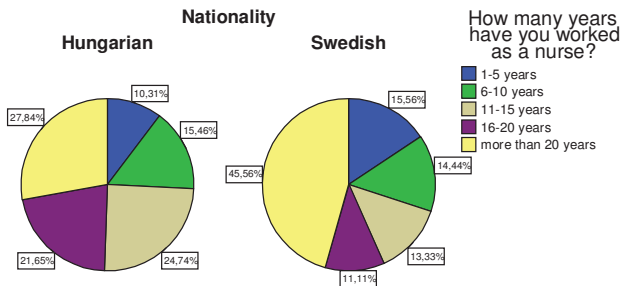
It was evident that there were major differences in education, where the Swedish nurses were more educated (Master degree 30%, Chi square=120.93, $p<0.001$) than the Hungarian nurses (Master degree 1.03%, Chi square=120.93, $p<0.001$) (see Diagram 5 below, Table 3 above, and Tables 151-160 in APPENDIX C). Here it has to be kept in mind that the required educational level is different in Sweden than in Hungary for working as a nurse. Years spent in education correlated with age ($n=187$, $r=0.294$, $p=0.01$) as well (see Table 161 in APPENDIX C).

Diagram 5: Educational level in the two samples



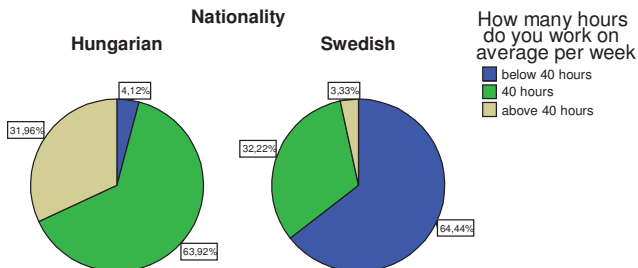
It was shown that the Swedish nurses had worked more in their profession (45.56%, Chi square=11.35, $p<0.05$) than their Hungarian colleagues (27.84%, Chi square=11.35, $p<0.05$) (see Diagram 6 below, Table 3 above, and Tables 151-160 in APPENDIX C). Years worked as a nurse was significantly correlated with age ($n=187$, $r=0.317$, $p=0.01$) (see Table 161 in APPENDIX C).

Diagram 6: Working experience in the two samples



Finally, there were major differences in hours spent at work between the two samples. The Hungarian nurses worked 40 hours to a higher degree (63.92%, Chi square=81.91, $p<0.001$) than the Swedish nurses (32.22%, Chi square=81.91, $p<0.001$) while the Swedish nurses worked less than 40 hours to a higher degree (64.44%, Chi square=81.91, $p<0.001$) than the Hungarian nurses (4.12%, Chi square=81.91, $p<0.001$) (see Diagram 7 below).

Diagram 7: Hours spent working per week in the two samples



4.3. BURNOUT IN THE HUNGARIAN AND SWEDISH NURSES

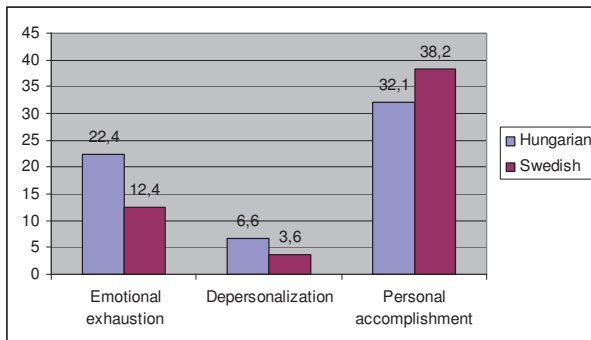
In this study it was assumed that since there are differences in the hospital organization, the hospital management, the hospital equipment etc. between Hungarian and Swedish hospitals, where Hungary is suffering from a deterioration in the hospitals policy-making, financing, management, service structure, patient's rights etc. (Piko, 1999), it would contribute to higher burnout in the Hungarian nurses than in the Swedish ones.

The means of the burnout subscales were compared between the Hungarian and Swedish nurses. The means and standard deviations showed that the Hungarian nurses had higher levels of emotional exhaustion (Mean= 22.4, SD= 10.96), depersonalization (Mean= 6.6, SD= 5.36), and lower levels of personal accomplishment (Mean= 32.1, SD= 6.72) (see Table 4 below and Table 5 in APPENDIX C, and Diagram 8 below).

Table 4: Burnout subscale means and standard deviations according to country

	Nationality			
	Hungarian		Swedish	
	Mean	St. Dev.	Mean	St. Dev.
Emotional exhaustion	22.4	10.96	12.4	7.64
Depersonalization	6.6	5.36	3.6	3.43
Personal accomplishment	32.1	6.72	38.2	7.09

Diagram 8: Burnout subscale means in the two samples



The Levene test of homogeneity of variances was done and since it failed in two subscales, emotional exhaustion and personal accomplishment (see Table 5 below and Table 6 in

APPENDIX 3); a robust Welch-test for comparison between the burnout scores was used instead (see Table 6 below and Table 8 in APPENDIX C).

Table 5: Test of Homogeneity of Variances for the burnout subscales

	Levene Statistic	df1	df2	Sig.
Emotional exhaustion	7.180	1	185	.008
Depersonalization	10.917	1	185	.001
Personal accomplishment	.742	1	185	.390

Table 6: Robust Tests of Equality of Means for the burnout subscales

	F Statistic	df1	df2	Sig.
Emotional exhaustion	52.143	1	171.989	.000
Depersonalization	20.746	1	164.686	.000
Personal accomplishment	35.454	1	181.984	.000

It was shown that the comparison between means was highly significant for all subscales, which means that emotional exhaustion and depersonalization were higher for the Hungarian nurses ($F=52.143$, $F=20.746$ respectively, in both cases $p<0.01$) while personal accomplishment was higher for the Swedish nurses ($F=35.454$, $p<0.01$) (see Table 6 above and Table 8 in APPENDIX C). Thus, the first hypothesis where the Hungarian nurses were assumed to have higher levels of burnout was confirmed.

4.4. BURNOUT AND WORK-RELATED STRESS

In this study it was assumed that the nine different work-related stress factors will be related to burnout in the Hungarian and Swedish nurses. It was expected that **conflicts with the doctors, relationships with the patients, relationship with the patient's relatives, workload and stress related to tasks** would result in higher stress for the Hungarian nurses and give higher burnout scores for the Hungarian nurses in relation to these factors. On the other hand, **death and dying, problems with the colleagues, work and private life, being unprepared and feeling inexperienced** would result in higher stress for the Swedish nurses and give higher burnout scores for the Swedish nurses in relation to these factors.

The differences in work-related stress factors between the countries were calculated. The means and standard deviations showed that the Hungarian nurses had higher means on all of the work-related stress factors except for two (relationship with the patients, and work and

private life), which means that the Hungarian nurses reported stress in relation to seven of the nine work-related stress factors to a higher degree than the Swedish nurses (see Table 7 below). The differences between the two samples were significant in most of the subscales according to the ANOVA results (homogeneity of variances were checked). In every subscales the Hungarian nurses experienced more work stress than the Swedish nurses therefore the summary of work stress was also significantly higher ($F=43.519$, $p<0.01$). **Death and dying** ($F=58.072$, $p<0.01$), **conflicts with the doctors** ($F=39.666$, $p<0.01$), **problems with the colleagues** ($F=20.850$, $p<0.01$), **relationship with patient's relatives** ($F=38.244$, $p<0.01$), **being unprepared and feeling inexperienced** ($F=22.375$, $p<0.01$), **workload** ($F=23.170$, $p<0.01$), and **stress related to tasks** ($F=92.034$, $p<0.01$) were the subscales in which Hungarian nurses had higher means than the Swedish nurses ($df=(1,186)$) (see Table 8 below and Table 10 in APPENDIX C). Thus, the above mentioned results shows that the first part of the second hypothesis was not supported since the Hungarian nurses experienced higher work-related stress on almost all of the work factors and not only on the ones assumed in the hypothesis. The only work-related factor where the Swedish nurses reported higher means was the **work and private life** factor (which was also assumed in the hypothesis to be higher for the Swedish nurses), however, this difference was not significant. Thus, the work and private life relationship causing more work-related stress for the Swedish nurses can only be mentioned as a trend.

Table 7: Work stress subscale means and standard deviations in the two countries

	Nationality			
	Hungarian		Swedish	
	Mean	St. Dev.	Mean	St.Dev.
Death and dying	14.0	3.30	10.5	3.06
Conflicts with the doctors	17.0	4.98	12.8	4.13
Problems with the colleagues	12.6	3.51	10.3	3.29
Relationship with the patients	10.8	3.55	10.1	2.88
Work and private life	5.7	2.16	5.8	2.03
Relationship with the patient's relatives	10.3	2.71	8.0	2.48
Being unprepared and feeling inexperienced	9.8	3.16	7.8	2.65
Workload	20.8	4.91	16.4	7.33
Stress related to tasks	17.0	4.07	11.8	3.35
Work stress summary	118.0	24.88	93.6	25.57

Table 8: ANOVA results of work stress subscales per country, df=(1,186)

	F	Sig.
Death and dying	58.072	.000
Conflicts with the doctors	39.666	.000
Problems with the colleagues	20.850	.000
Relationship with the patients	1.971	.162
Work and private life	.319	.573
Relationship with the patient's relatives	38.244	.000
Being unprepared and feeling inexperienced	22.375	.000
Workload	23.170	.000
Stress related to tasks	92.034	.000
Work stress summary	43.519	.000

When it comes to the different work-related stress factors and burnout, the Pearson correlation showed that the summarized work stress scores were strongly correlated to emotional exhaustion ($r=0.514$, $p<0.01$), depersonalization ($r=0.298$, $p<0.01$), and negatively correlated to personal accomplishment ($r=-0.170$, $p<0.05$) (see Table 9 below and Table 12 in APPENDIX C). Pearson correlations between the three burnout subscales and the nine work stress subscales were calculated to see how the work stress factors were related to different aspects of burnout. It was shown that the strongest correlation with **emotional exhaustion** was **stress related to tasks** ($r=0.516$, $p<0.01$), **conflicts with the doctors** ($r=0.497$, $p<0.01$), **being unprepared and feeling inexperienced** ($r=0.433$, $p<0.01$), and **death and dying** ($r=0.429$, $p<0.01$). **Emotional exhaustion** correlated with all the work stress subscales on at least a significance level of 5%. **Depersonalization** correlated with all the subscales except for one, the **work and private life** subscale. **Personal accomplishment** was negatively correlated with **conflicts with the doctors** ($r=0.168$, $p<0.05$), **being unprepared and feeling inexperienced** ($r=-0.149$, $p<0.05$), **workload** ($r=-0.178$, $p<0.05$) and **stress related to tasks** ($r=-0.269$, $p<0.01$) (see Table 10 below and Table 13 in APPENDIX C).

Table 9: Correlations between work stress and the three burnout subscales

	Emotional exhaustion	Depersonalization	Personal accomplishment
Work stress sum	.514(**)	.298(**)	-.170(*)

** $p<0.01$ (2-tailed) * $p<0.05$ (2-tailed)

Table 10: Correlations between the three burnout subscales and the nine work stress subscales

		Burnout subscales		
		Emotional exhaustion	Depersonalization	Personal accomplishment
Work stress subscales	Death and dying	.429(**)	.197(**)	-.086
	Conflicts with the doctors	.497(**)	.297(**)	-.168(*)
	Problems with the colleagues	.398(**)	.216(**)	-.116
	Relationship with the patients	.406(**)	.245(**)	-.002
	Work and private life	.154(*)	.112	.099
	Relationship with the patient's relatives	.419(**)	.211(**)	-.109
	Being unprepared and feeling inexperienced	.433(**)	.275(**)	-.149(*)
	Workload	.367(**)	.229(**)	-.178(*)
	Stress related to tasks	.516(**)	.292(**)	-.269(**)

** p<0.01 (2-tailed) * p<0.05 (2-tailed)

Stepwise linear regression analysis was used to see which work stress subscales were the most important. It was found that from all work stress subscales there were mainly four which determined **emotional exhaustion: stress related to tasks, conflicts with the doctors, work and private life, and relationship with the patients** (see Table 15 in APPENDIX C). It was shown that the best work stress subscale predictor of emotional exhaustion was **stress related to tasks** ($\beta=0.342$, adjusted $R^2=0.259$, $p<0.01$) and when adding **conflicts with the doctors** ($\beta=0.221$, $p<0.05$), **work and private life** (reversed connection, $\beta=-0.178$, $p<0.05$), **relationship with patients** ($\beta=0.176$, $p<0.05$), cumulated adjusted R^2 became 0.314 which means that nearly one third of emotional exhaustion was caused by the above mentioned work-related stressors (see Table 17 in APPENDIX C).

When it comes to the **depersonalization** subscale it was shown that it was determined by **conflicts with the doctors** only, according to the stepwise linear regression analysis (see Table 20 in APPENDIX C). This variable predicted 8.4% of the variance ($\beta=0.298$, $p<0.01$) (see Table 22 in APPENDIX C).

When it comes to the **personal accomplishment** subscale it was found that from all work stress subscales there were mainly two which determined personal accomplishment: **stress related to tasks**, and **work and private life** (see Table 25 in APPENDIX C). It was shown that the best work stress subscale predictors of personal accomplishment were **stress related to tasks** (reversed, ($\beta=-0.414$, $p<0.01$ adjusted $R^2=0.074$), and **work and private life** ($\beta=0.288$, $p<0.01$, cumulated adjusted $R^2=0.135$). This means that these two factors could predict 13.5% of the variance of personal accomplishment (see Table 27 in APPENDIX C).

In the second part of the second hypothesis it was expected that **conflicts with the doctors, relationships with the patients, relationship with the patient's relatives, workload and stress related to tasks** would result in higher burnout scores for the Hungarian nurses. On the other hand, **death and dying, problems with the colleagues, work and private life, being unprepared and feeling inexperienced** would result in higher burnout scores for the Swedish nurses. Thus, burnout and the work stress subscales were checked separately for each country. It was found that **personal accomplishment** was not associated with work stress at all, in any of the countries. **Depersonalization** was not connected to work stress in the Swedish sample, but it was in the Hungarian sample, except for death and dying, work and private life, and stress related to tasks. On the other hand, **conflicts with the doctors** ($r=0.255$, $p<0.05$), **problems with the colleagues** ($r=0.203$, $p<0.05$), **relationship with the patients** ($r=0.346$, $p<0.01$), **relationship with the patient's relatives** ($r=0.207$, $p<0.05$), **being unprepared and feeling inexperienced** ($r=0.276$, $p<0.01$), **workload** ($r=0.266$, $p<0.01$), and **summary of the work stress** ($r=0.303$, $p<0.01$) were all significant correlations in the Hungarian sample. According to the data it seems like **emotional exhaustion** was the most sensitive to the work stress factors in both countries. In the Hungarian sample only the work-related stressor work and private life did not correlate with emotional exhaustion. In the Swedish sample only the work stressor workload was uncorrelated with emotional exhaustion. Thus, for the Hungarian nurses **death and dying** ($r=0.268$, $p<0.01$), **conflicts with the doctors** ($r=0.421$, $p<0.01$), **problems with the colleagues** ($r=0.340$, $p<0.01$), **relationship with the patients** ($r=0.469$, $p<0.01$), **relationship with the patient's relatives** ($r=0.324$, $p<0.01$), **being unprepared and feeling inexperienced** ($r=0.377$, $p<0.01$), **workload** ($r=0.413$, $p<0.01$), **stress related to tasks** ($r=0.316$, $p<0.01$), and **summary of the work stress** ($r=0.462$, $p<0.01$) all significantly correlated with emotional exhaustion. For the Swedish sample, **death and dying** ($r=0.258$, $p<0.05$), **conflicts with the doctors** ($r=0.294$, $p<0.01$), **problems with the colleagues** ($r=0.238$, $p<0.05$), **relationship with the patients** ($r=0.288$, $p<0.01$), **work and private life** ($r=0.310$, $p<0.01$), **relationship with the patient's relatives** ($r=0.214$, $p<0.05$), **being unprepared and feeling inexperienced** ($r=0.264$, $p<0.05$), **stress related to tasks** ($r=0.397$, $p<0.01$), and **summary of the work stress** ($r=0.301$, $p<0.01$) all significantly correlated with emotional exhaustion. This means that the second part of the hypothesis was partly supported since the assumed work stress factors for each sample could be significantly related to burnout, however the ones not assumed in the hypothesis could also be significantly related to burnout in each sample. Also, the work stress factor **workload** was assumed in the hypothesis to cause burnout for the Hungarian sample

but not for the Swedish one, and the work stress factor **work and private life** was assumed in the hypothesis to cause burnout for the Swedish sample but not for the Hungarian one, and these assumptions were supported in the data (see Table 11 below and Table 164 in APPENDIX C, and Table 12 below and Table 165 in APPENDIX C).

Table 11: Correlations between burnout and the work stress subscales in the Hungarian sample

	Emotional exhaustion	Deperson- alization	Personal accomplishment
Death and dying	.268(**)	.114	.185
Conflicts with the doctors	.421(**)	.255(*)	-.036
Problems with the colleagues	.340(**)	.203(*)	.059
Relationship with the patients	.469(**)	.346(**)	.072
Work and private life	.130	.192	.168
Relationship with the patient's relatives	.324(**)	.207(*)	.064
Being unprepared and feeling inexperienced	.377(**)	.276(**)	-.093
Workload	.413(**)	.266(**)	-.088
Stress related to tasks	.316(**)	.197	-.099
Work stress summary	.462(**)	.303(**)	.012

** p<0.01 (2-tailed) * p< 0.05 (2-tailed).

Table 12: Correlations between burnout and the work stress subscales in the Swedish sample

	Emotional exhaustion	Depersonali- zation	Personal accomplishment
Death and dying	.258(*)	-.057	.086
Conflicts with the doctors	.294(**)	.068	.048
Problems with the colleagues	.238(*)	.003	-.036
Relationship with the patients	.288(**)	-.025	.009
Work and private life	.310(**)	.031	.006
Relationship with the patient's relatives	.214(*)	-.111	.074
Being unprepared and feeling inexperienced	.264(*)	.029	.070
Workload	.127	.023	-.028
Stress related to tasks	.397(**)	.039	.008
Work stress summary	.301(**)	.010	.013

** p<0.01 (2-tailed) * p< 0.05 (2-tailed).

4.5. BURNOUT AND LIFE SATISFACTION

In this study it was assumed that differences in life satisfaction scores between the nurses would be positively related to burnout. It was expected that higher life satisfaction scores

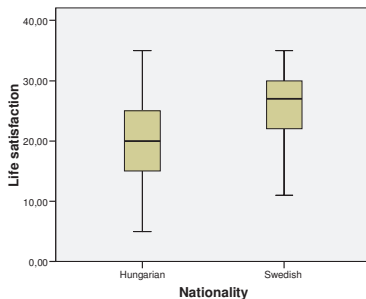
would be found in the Swedish sample, and that this would be related to lower burnout scores for the Swedish nurses. It was investigated if life satisfaction means were different in the two countries, and it was shown that the life satisfaction mean for the Swedish nurses (Mean= 25.8, SD= 5.82) was higher than for the Hungarian nurses (Mean= 19.7, SD= 6.87) (see Table 13 below and Table 29 in APPENDIX C).

Table 13: Descriptive statistics of life satisfaction between Hungarian and Swedish nurses

	N	Mean	Std. Deviation	Minimum	Maximum
Hungarian	97	19.7	6.87	5.0	35.0
Swedish	90	25.8	5.82	11.0	35.0
Total	187	22.6	7.07	5.0	35.0

Diagram 9:

Life satisfaction means for Hungary and Sweden



It was found that life satisfaction was higher in the Swedish sample than in the Hungarian sample (see Diagram 9 left), and this difference was highly significant. Univariate ANOVA was used to get this conclusion ($F=42.878$, $p<0.001$), after homogeneity of variances was proven with the Levene test (see Table 31 in APPENDIX C).

Because of the inequalities of the Hungarian and Swedish samples, linear regression analysis was used to check if other demographic variables had an impact on life satisfaction. Stepwise method was used where country, age, years worked as a nurse, years worked at the same workplace, hours spent at the workplace per week, marital status, education, and number of children variables (the dummy versions) were included. The variables country, partnership, and having more than one child proved significant predictors of life satisfaction, which determined 22.3% (adjusted R^2) of the overall life satisfaction (see Table 34 in APPENDIX C). Being Swedish ($\beta=0.421$, $p<0.01$) and being in a relationship ($\beta=0.198$, $p<0.01$) were contributing to higher life satisfaction, while having more than one child was antagonizing it ($\beta=-0.149$, $p<0.05$) (see Table 36 in APPENDIX C).

To determine which variables predicted life satisfaction best, stepwise linear regression analysis was used. All scales and demographic variables were included. It was shown that life satisfaction was determined by **sense of coherence** ($\beta=0.354$, $p<0.01$) adjusted $R^2=0.330$), **family support** ($\beta=0.298$, $p<0.01$, cumulated adjusted $R^2=0.443$), **country** ($\beta=0.309$, $p<0.01$, cumulated adjusted $R^2=0.530$), **depersonalization** ($\beta=0.232$, $p<0.01$, cumulated adjusted $R^2=0.544$), **emotional exhaustion** (reversed, $\beta=-0.163$, $p<0.05$, cumulated adjusted $R^2=0.555$) and **friend support** ($\beta=0.135$, $p<0.05$, cumulated adjusted $R^2=0.566$). This means that 56.6% of the variance of life satisfaction was determined by these variables (See Table 39 in APPENDIX C and Table 41 in APPENDIX C). Since it was found that life satisfaction was higher in the Swedish sample than in the Hungarian sample, and since this difference was highly significant, the third hypothesis was supported. Also, it was shown that country was one of the variables which highly determined life satisfaction in this sample of Hungarian and Swedish nurses. When it comes to the assumption that higher life satisfaction scores would result in lower burnout scores for the Swedish nurses, it was shown not to be the case. Thus, this part of the third hypothesis was not supported. It was shown that life satisfaction did not have any influence on burnout, even when nationality was taken into consideration (see Figure 3 below).

4.6. BURNOUT AND PERSONALITY

4.6.1. The three factors and the 16 subscales of the Psychological Immune System

The psychological immune system has 16 subscales from which three main factors emerge: the Approach-Belief System (ABS), the Monitoring-Creating-Executing System (MCES), and the Self-Regulating System (SRS). The three main factors with their 16 individual subscales are presented below:

The Approach-Belief System (ABS)

- Positive Thinking
- Sense of Coherence
- Sense of Self-Growth
- Sense of Control

The Monitoring-Creating-Executing System (MCES)

- Creative Self-Concept
- Self-Efficacy
- Goal-Orientation
- Problem Solving Capacity
- Change and Challenge Orientation
- Social Monitoring Capacity
- Social Mobilizing Capacity
- Social Creating Capacity

The Self-Regulating System (SRS)

- Synchronicity
- Impulse Control
- Emotional Control
- Irritability Control

The correlations of the psychological immune system factors showed that the Approach-Belief System correlated significantly with the Monitoring-Creating-Executing System ($r=0.679$, $p<0.01$) and with the Self-Regulating System ($r=0.679$, $p<0.01$). The Monitoring-Creating-Executing System correlated significantly with the Self-Regulating System ($r=0.402$, $p<0.01$) (see Table 14 below and Table 43 in APPENDIX C).

Table 14: Inter-scale correlations in the three main factors of the PICI

	[1]	[2]	[3]
Approach-Belief System [1]	1		
Monitoring-Creating-Executing System [2]	.679(**)	1	
Self-Regulating System [3]	.679(**)	.402(**)	1

** $p<0.01$ (2-tailed).

4.6.2. Confirmatory Factor Analysis (CFA) of the Psychological Immune System

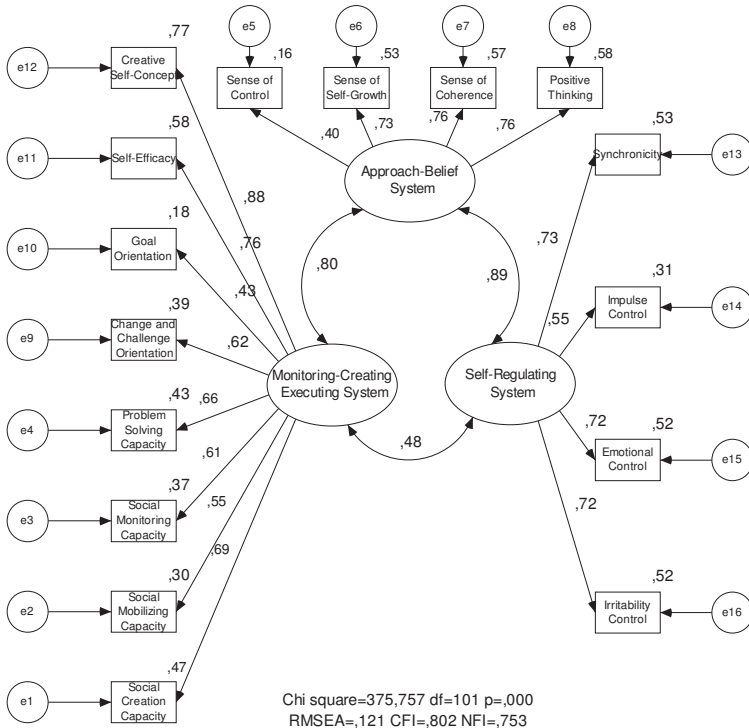
To conduct the Confirmatory Factor Analysis (CFA) the three main factors of the psychological immune system were used as latent variables and the 16 subscales as manifest variables. The CFA was done separately for the Hungarian and the Swedish sample, as well as together. It was shown that the model fit values (Hungarian Chi square=246.564, Swedish Chi square=241.241, overall Chi square=375.757, $df=101$ and $p=0.000$ in all models) were not necessarily presenting the match of the conceptual and the experimental structure of the psychological immune system (see Table 15 below and Tables 179, 180, 184, 201, 202, 206 in

APPENDIX C, and Figure 1 below). Chi square values should be non-significant ($p > 0.05$), RMSEA values should be less than 0.06, whereas CFI and NFI values should be 0.95 or more (Albright & Park, 2008).

Table 15: Model fit measures of the CFA

	Chi square	df	p	CFI	NFI	RMSEA
Hungarian	246.564	101	0.000	0.794	0.707	0.123
Swedish	241.241	101	0.000	0.783	0.692	0.125
Overall	375.757	101	0.000	0.802	0.753	0.121

Figure 1: CFA of the Psychological Immune System in both samples



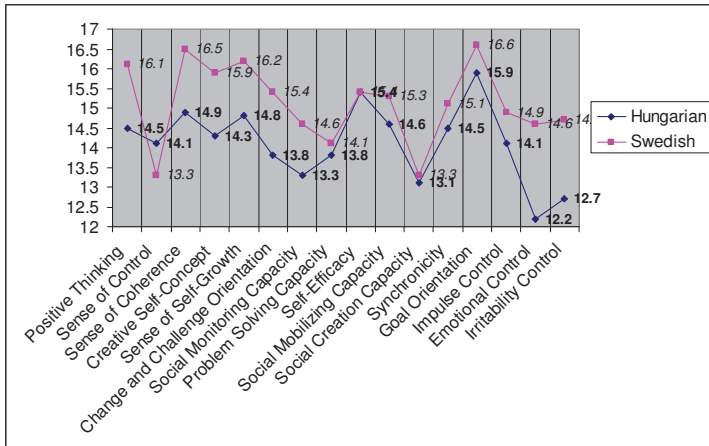
4.6.3. Findings for Burnout and Personality

In this study it was assumed that psychological immunity (as the personality factor) will have an effect on burnout. Since the psychological immunity has been shown to be higher in Sweden than in Hungary (Olah, Nagy & Toth, 2009), it was anticipated that the psychological immunity for the present Swedish nurses will be higher. It was also expected that the higher psychological immunity in the Swedish sample would give lower burnout scores for the Swedish nurses. According to this hypothesis, the mean differences in the psychological immunity subscales between the two different countries were checked and it was shown that the Swedish nurses had higher means for all of the 16 subscales except for the subscale **Sense of Control**, where the Hungarian nurses had a higher mean ($M= 14.1$, $SD= 2.43$ versus $M= 13.3$, $SD= 1.92$) (see Table 16 below and Table 59 in APPENDIX C and Diagram 10 below).

Table 16: The means and standard deviations of PICI values in Hungary and Sweden

	Country			
	Hungarian		Swedish	
	Mean	St. Dev.	Mean	St. Dev.
Positive Thinking	14.5	3.13	16.1	2.33
Sense of Control	14.1	2.43	13.3	1.92
Sense of Coherence	14.9	2.99	16.5	2.47
Creative Self-Concept	14.3	3.21	15.9	2.80
Sense of Self-Growth	14.8	2.92	16.2	2.38
Change and Challenge Orientation	13.8	3.21	15.4	2.94
Social Monitoring Capacity	13.3	3.25	14.6	2.51
Problem Solving Capacity	13.8	3.40	14.1	2.39
Self-Efficacy	15.4	2.58	15.4	2.31
Social Mobilizing Capacity	14.6	3.08	15.3	2.53
Social Creation Capacity	13.1	2.80	13.3	2.60
Synchronicity	14.5	3.23	15.1	2.66
Goal Orientation	15.9	2.79	16.6	2.21
Impulse Control	14.1	2.97	14.9	2.18
Emotional Control	12.2	3.37	14.6	2.56
Irritability Control	12.7	3.07	14.7	2.47

Diagram 10: PICI subscale means for the Hungarian and Swedish nurses



Levene test was conducted in order to check for the homogeneity of variances, however since this failed in several of the subscales, a robust Welch test was used to determine the significance of the mean differences between the two samples. It was found that there were significant differences in several subscales, except for problem solving capacity, self-efficacy, social mobilizing capacity, social creation capacity, synchronicity, and goal orientation. There were differences in **positive thinking** ($F=16.468$, $p<0.01$), **sense of coherence** ($F=14.258$, $p<0.01$), **creative self-concept** ($F=13.675$, $p<0.01$), **sense of self-growth** ($F=13.494$, $p<0.01$), **change and challenge orientation** ($F=11.754$, $p<0.01$), **social monitoring capacity** ($F=9.504$, $p<0.01$), **impulse control** ($F=4.504$, $p<0.05$), **emotional control** ($F=29.879$, $p<0.01$), and **irritability control** ($F=25.786$, $p<0.01$), where the Swedish nurses achieved higher values. On the subscale of sense of control ($F=5.469$, $p<0.05$) the Hungarian nurses achieved higher values (see Table 17 below and Table 62 in APPENDIX C). Since it was anticipated that the Swedish nurses will have higher psychological immunity, it can be said that this assumption of the fourth hypothesis was met since the Swedish nurses scored higher on the majority of the 16 of the psychological immunity subscales.

Table 17: Robust Test of Equality of Means of the PICI subscales for the Hungarian and Swedish nurses

	F Statistic	df1	df2	Sig.
Positive Thinking	16.468	1	176.892	.000
Sense of Control	5.469	1	177.530	.020
Sense of Coherence	14.458	1	182.077	.000
Creative Self-Concept	13.675	1	183.061	.000
Sense of Self-Growth	13.494	1	182.041	.000
Change and Challenge Orientation	11.754	1	184.956	.001
Social Monitoring Capacity	9.504	1	177.551	.002
Problem Solving Capacity	.458	1	172.709	.500
Self-Efficacy	.022	1	184.807	.883
Social Mobilizing Capacity	3.210	1	182.426	.075
Social Creation Capacity	.274	1	185.000	.601
Synchronicity	1.843	1	180.615	.176
Goal Orientation	3.802	1	180.577	.053
Impulse Control	4.501	1	175.739	.035
Emotional Control	29.879	1	178.263	.000
Irritability Control	25.786	1	181.371	.000

The Hungarian and the Swedish nurses were also tested for differences in the three main factors of the psychological immune system. To do this the Welch-test was used, as the homogeneity of variances prerequisite was not fulfilled. The means and standard deviations showed that the Swedish nurses attained higher means for all the three main factors (ABS: M= 62.2, SD= 6.79; MCES: M= 120.7, SD= 14.17; SRS: M= 59.2, SD= 7.14) than the Hungarian nurses (ABS: M= 58.4, SD= 8.76; MCES: M= 114.1, 17.20; SRS: M= 53.6, SD= 9.90) (see Table 18 below).

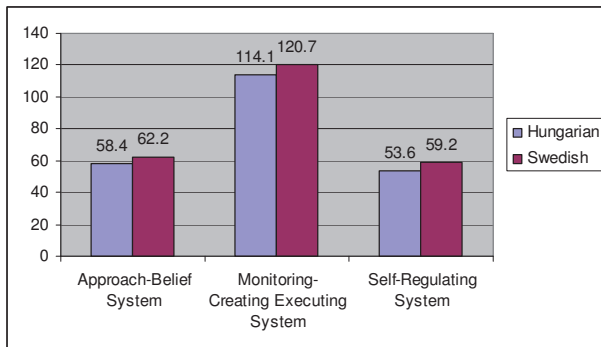
Table 18: Means and standard deviations per country of the three main PICI factors

	Nationality			
	Hungarian		Swedish	
	Mean	St. Dev.	Mean	St. Dev.
Approach-Belief System	58.4	8.76	62.2	6.79
Monitoring-Creating-Executing System	114.1	17.20	120.7	14.17
Self-Regulating System	53.6	9.90	59.2	7.14

When differences in the three main factors were further examined, it turned out that the differences were present in all of them: The Approach–Belief System ($F(1,175.945)=10.579$, $p=0.001$), the Monitoring-Creating-Executing System ($F(1,179.131)=8.196$, $p=0.005$), and the Self Regulating System ($F(1,172.716)=20.054$, $p<0.001$) (see Table 65 in APPENDIX C).

Thus, it can be concluded that the Swedish nurses scored higher on all the three main factors than the Hungarian nurses (see Diagram 11 below), which means that the fourth hypothesis was supported also in connection to the three main factors of the psychological immune system for the Swedish nurses.

Diagram 11: PICI means by country



It was also expected that the higher psychological immunity in the Swedish sample would give lower burnout scores for the Swedish nurses. Since causal relationships between burnout and the psychological immunity's three main factors could theoretically be in either direction, correlations were checked. It was shown that there was a difference in the correlations with regards to nationality. For the Swedish nurses, emotional exhaustion correlated with the Approach-Belief System ($r=-0.325$, $p<0.01$) and the Self Regulating System ($r=-0.548$, $p<0.01$). Depersonalization did not correlate with any of the PICI subsystems. Personal accomplishment correlated with the Approach-Belief System ($r=0.455$, $p<0.01$), the Monitoring-Creating-Executing System ($r=0.489$, $p<0.01$), and the Self Regulating System ($r=0.395$, $p<0.01$) (see Table 19 below and Table 67 in APPENDIX C). For the Hungarian nurses, emotional exhaustion correlated with the Approach-Belief System ($r=-0.325$, $p<0.01$), the Monitoring-Creating-Executing System ($r=-0.349$, $p<0.01$), and the Self Regulating System ($r=-0.379$, $p<0.01$). Depersonalization correlated with the Approach-Belief System ($r=-0.501$, $p<0.01$), the Monitoring-Creating-Executing System ($r=-0.507$, $p<0.01$), and the Self Regulating System ($r=-0.278$, $p<0.01$). Personal accomplishment correlated only with the

Approach–Belief System ($r=0.260$, $p<0.05$) (see Table 20 below and Table 66 in APPENDIX C).

Table 19: Correlations between burnout and psychological immunity for the Swedish nurses

	Approach- Belief System	Monitoring- Creating- Executing System	Self-Regulating System
Emotional exhaustion	-.325(**)	-.198(**)	-.458(**)
Depersonalization	.094	.106(**)	.056
Personal accomplishment	.455(**)	.489(**)	.395(**)

** $p<0.01$ (2-tailed).

Table 20: Correlations between burnout and psychological immunity for the Hungarian nurses

	Approach- Belief System	Monitoring- Creating- Executing System	Self-Regulating System
Emotional exhaustion	-.463(**)	-.349(**)	-.379(**)
Depersonalization	-.501(**)	-.507(**)	-.278(**)
Personal accomplishment	.260(*)	.145	.172

* $p<0.05$ (2-tailed).

** $p<0.01$ (2-tailed).

In the Structural Equation Model it was also shown that higher psychological immunity resulted in lower burnout for the Swedish nurses and thus, the second part of the fourth hypothesis could be supported because the Swedish nurses, who had higher psychological immunity, also scored lower on the burnout subscales (see Figure 3 below).

4.7. BURNOUT AND SOCIAL SUPPORT

In this study it was assumed that social support would serve as a protective factor for the Hungarian nurses. It was anticipated that the Hungarian nurses would be married or in a relationship to a higher degree than the Swedish nurses and thus gain more social support from a husband or partner. This higher degree of partner support, resulting from being in a relationship, would then be expected to be related to lower burnout in the Hungarian nurses. Thus, it was examined if there were differences in social support scores between the two samples. The mean differences showed that there were no major differences in the social

support between the Hungarian nurses (Family Mean= 5.9, SD= 1.24; Friends Mean= 5.8, SD= 1.16; Significant other Mean= 6.1, SD= 1.16) and the Swedish nurses (Family Mean= 6.2, SD= 1.08; Friends Mean= 6.0, SD= 0.98; Significant other Mean= 6.2, SD= 1.29) (see Table 21 below and Table 68 in APPENDIX C). After the homogeneity of variances was proven by Levene test, ANOVA was used to check if there were significant differences in the subscales by country. According to the ANOVA there were no significant differences between the countries for the subscales of social support (see Table 22 below and Table 70 in APPENDIX C). Since social support was proven not to be significantly different in the two samples it could not be related to lower burnout in the Hungarian sample and thus, the fifth hypothesis could not be supported.

Table 21: Social support subscale means and standard deviations
for the Hungarian and Swedish nurses

	Country			
	Hungarian		Swedish	
	Mean	St. Dev.	Mean	St. Dev.
Family subscale	5.9	1.24	6.2	1.08
Friends subscale	5.8	1.16	6.0	.98
Significant other subscale	6.1	1.16	6.2	1.29
Social support questionnaire	6.0	1.01	6.1	.98

Table 22: ANOVA results for social support
in the Hungarian and Swedish nurses (df=1,186)

	F	Sig.
Family subscale	2.088	0.150
Friends subscale	1.287	0.258
Significant other subscale	0.707	0.401
Social support questionnaire	1.733	0.190

4.8. WHICH FACTORS CONTRIBUTED TO HIGHER BURNOUT?

In this study it was looked at which factors contribute to burnout to a higher degree. It was investigated whether lower levels of work stress, higher life satisfaction, higher psychological immunity, or higher levels of social support would serve as the most protective factor against burnout, across the two samples. To find out which variables were the best predictors of burnout a linear regression analysis was made, using stepwise method, including all scales and demographic variables. It was shown that the best predictors for **emotional exhaustion** were **work stress** ($\beta=0.403$, $p<0.01$, adjusted $R^2=0.275$), **emotional control** (reversed, $\beta=-0.258$, $p<0.01$, cumulated adjusted $R^2=0.365$), **creative self-concept** (reversed, $\beta=-0.209$,

$p < 0.01$, cumulated adjusted $R^2 = 0.405$), and **marriage** (reversed, $\beta = -0.160$, $p < 0.01$, cumulated adjusted $R^2 = 0.427$). This means that 42.7% of the variances in emotional exhaustion could be explained by these four variables (see Tables 73 and 75 in APPENDIX C).

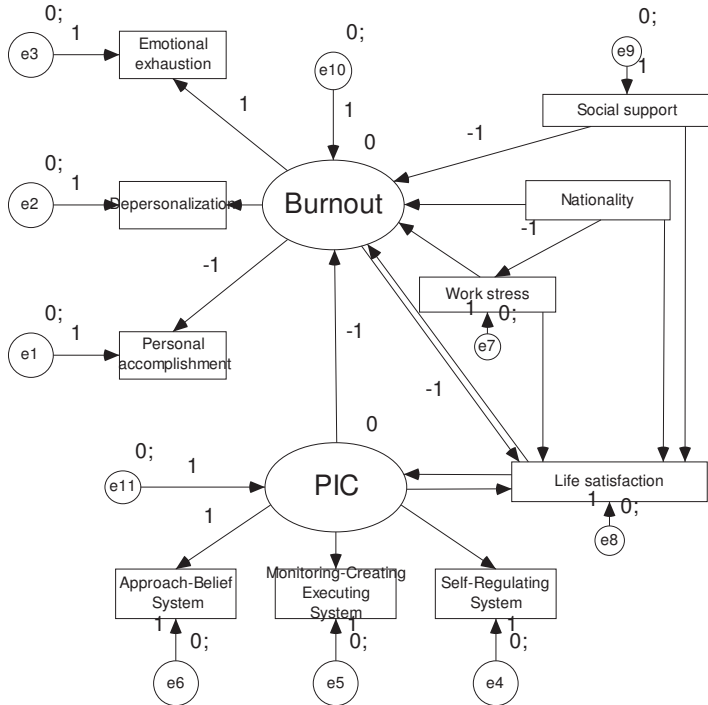
It was shown that the best predictors for **depersonalization** were **creative self-concept** (reversed, $\beta = -0.230$, $p < 0.01$, adjusted $R^2 = 0.104$), **conflicts with the doctors** ($\beta = 0.265$, $p < 0.01$, cumulated adjusted $R^2 = 0.174$), **marriage** (reversed, $\beta = -0.187$, $p < 0.01$, cumulated adjusted $R^2 = 0.218$), and **goal orientation** (reversed, $\beta = -0.176$, $p < 0.05$, cumulated adjusted $R^2 = 0.240$). This means that 24% of the variance in depersonalization could be explained by these four variables (see Tables 78 and 80 in APPENDIX C).

It was shown that the best predictors for **personal accomplishments** were **sense of self-growth** ($\beta = 0.269$, $p < 0.01$, adjusted $R^2 = 0.190$), **country** ($\beta = 0.267$, $p < 0.01$, cumulated adjusted $R^2 = 0.273$), **problem solving capacity** (reversed, $\beta = 0.182$, $p < 0.01$, cumulated adjusted $R^2 = 0.298$), **death and dying** ($\beta = 0.301$, $p < 0.01$, cumulated adjusted $R^2 = 0.325$), **emotional control** ($\beta = 0.245$, $p < 0.01$, cumulated adjusted $R^2 = 0.347$), **workload** (reversed, $\beta = -0.290$, $p < 0.01$, cumulated adjusted $R^2 = 0.365$), and **relationship with the patients** ($\beta = 0.216$, $p < 0.01$, cumulated adjusted $R^2 = 0.386$). This means that 38.6% of the variance in personal accomplishments could be explained by these seven variables (see Tables 83 and 85 in APPENDIX C).

4.8.1. Structural Equation Model (SEM)

As an overview of the whole study, a structural equation model (SEM) was conducted. With the SEM it is possible to use conceptual variables which are determined by the observed variables, so the phenomenon can be examined in a more complex way. In the first step a conceptual model was conducted about burnout, life satisfaction, social support, work-related stress, and personality (PIC1). In addition, nationality was included as it proved to be an important factor for the above mentioned variables (see Figure 2 below).

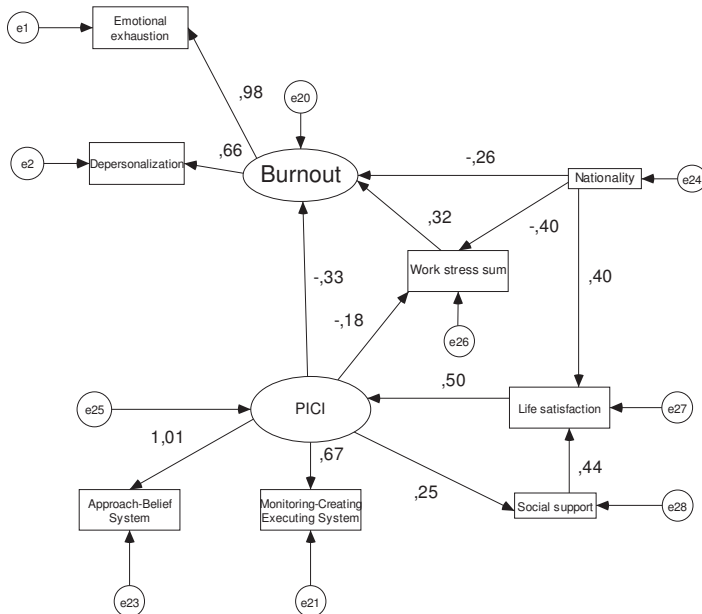
Figure 2: A conceptual Structural Equation Model of the study



The model fit statistics for the theoretical SEM were: Chi square=263.0, df=32, p=0.000 (see Table 99 in APPENDIX C) and this means that the theoretical model did not fit the experimental data of RMSEA=0.197 (see Table 104 in APPENDIX C), NFI=0.664, CFI=0.682 (see Table 100 in APPENDIX C). The next step was that all non-significant relationships and unnecessary variables were removed, to be able to reach a model which would fit the experimental data. The following variables proved to be important in influencing the burnout directly or indirectly (standardized estimates are shown in brackets: Emotional exhaustion (0.98) and depersonalization (0.66) were shown to be important in the final model. Burnout was directly influenced by **nationality** (-0.26, where the Hungarian nurses had higher values), by **work stress** (0.32), and by **psychological immunity** (-0.33, as a protective factor against burnout). Nationality also had an indirect effect on burnout through work stress (-0.40). Two out of three psychological immunity factors were important in the model: the

Approach–Belief System (1.01) and the **Monitoring-Creating-Executing System** (0.67). The psychological immunity system was shown to be influenced by life satisfaction (0.50), and psychological immunity determined social support (0.25). Social support influenced life satisfaction (0.44), and life satisfaction was also affected by nationality (0.40) (see Figure 3 below). This conceptual model fits well with the experimental data: Chi-square=22.584, df=15, p=0.93 (see Table 121 in APPENDIX C), RMSEA=0.052 (see table 126 in APPENDIX C), TLI=0.966, CFI=0.986 (see Table 122 in APPENDIX C). This means that the experimental data did not differ significantly from the conceptual model. Thus, when it comes to the sixth hypothesis and which variable would serve as the most protective factor against burnout, across the two samples, it was shown that **higher psychological immunity** was the best protective factor against burnout (-0.33). After that it was **nationality** (-0.26). Low levels of work-related stress, higher life satisfaction and higher social support did not directly serve as a protective factor against burnout.

Figure 3: The experimental Structural Equation Model with good model fit values



chi square = 22,584 df=15 p=,093 TLI=,966 CFI=,986 RMSEA=,052

4.9. BURNOUT AND THE DEMOGRAPHIC VARIABLES

In this study the following variables were looked into and connected to burnout: age, marital status, number of children, educational level, number of years working as a nurse, and number of hours worked per week. These variables were looked into because all of them were expected to have an influence on burnout: lower age, not being married, having no children, lower educational level, less years of working as a nurse, and more hours worked per week was assumed to have a negative influence on burnout scores across the two samples.

It was found that the differences in the two samples were present in the categorical variables as well as in the scale demographic variables. Thus, it can be concluded that the two samples were different in several demographical and work related aspects. This was the reason why it was strongly needed to do some adjustments in the data, in order to exclude the effects which may be caused by the differences between the two samples. Since the ordinal variables were not suitable for linear and logistic regression analysis, they were transformed into dummy variables when doing the regression analysis. Also, the ordinal educational variables were transformed into scale variables by substituting them with years spent in education. Thus, high school became 12 years, BA became 15 years, and MA became 17 years.

The Hungarian and the Swedish nurses had different distributions in marital status. The burnout scores were examined in relation to marital status and the means and standard deviations showed that being **widowed** had the highest **emotional exhaustion** mean (Mean 30.5, SD= 4.95) and being married had the lowest emotional exhaustion mean (Mean= 15.2, SD= 9.58) (see Table 23 below and Table 130 in APPENDIX C). ANOVA (homogeneity of variance fulfilled) was used in order to see if there were any significant differences related to marital status. It was found that there were significant differences in emotional exhaustion ($F=2.675$, $p<0.05$) and depersonalization ($F=3.204$, $p<0.01$). **Married** nurses had the **lowest levels of emotional exhaustion** and these levels were significantly smaller than for the single nurses (Mean difference=-4.928, $p<0.05$), having a partner (Mean difference=-5.086, $p<0.05$) and being widowed (Mean difference=-15.261, $p<0.05$) (according to the post-hoc LSD test) (see Table 134 in APPENDIX C). No other marital status variable was significantly different from other variables in terms of burnout. The differences were still significant when nationality was used as a covariate.

Table 23: Burnout means and standard deviations and marital status

		Emotional exhaustion		Depersonalization		Personal accomplishment	
		Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Marital status	single	20.2	9.90	7.2	4.93	32.5	7.42
	married	15.2	9.58	3.8	3.66	35.9	7.48
	partner	20.3	12.52	5.9	5.98	35.4	7.04
	divorced	17.1	11.37	5.2	4.53	35.4	7.39
	widowed	30.5	4.95	8.0	4.24	28.5	3.54
	other	12.0	4.55	5.3	5.38	37.3	12.45

It was also checked which other demographic variables were important in burnout. Linear regression analysis with stepwise method was used to keep only the important variables in the model. Since the ordinal variables were not suitable for this method, dummy variables were used to be able to use them in the analysis. Also, the ordinal educational variable was transformed into a scale variable, by substituting it with years spent in education instead (as mentioned above as well).

For **emotional exhaustion** it was found that only the variable **nationality** survived in the model ($\beta=-0.464$, $p<0.01$) and that no other demographic variable proved to be significant. Nationality could explain 21.1% of the variance in burnout (see Table 136 and Table 138 in APPENDIX C). When it comes to **depersonalization**, the variables **nationality** ($\beta=-0.313$, $p<0.01$) and **marriage** ($\beta=-0.192$, $p<0.01$) proved to be protective factors of burnout. Together they predicted 12.4% of the variance in burnout (see Table 141 and Table 143 in APPENDIX C). Regarding **personal accomplishment**, the variable **nationality** merged every other factor, thus it remained alone in the final model ($\beta=-0.402$, $p<0.01$). The variable nationality predicted 15.7% of the variance in burnout (see Table 146 and Table 148 in APPENDIX C).

Thus, when it comes to the seventh and last hypothesis, it was shown that age, number of children, educational level, number of years working as a nurse, and number of hours worked per week did not have a significant influence on burnout. The two variables which showed to have a significant effect on burnout were only **nationality** and **marital status**. In relation to nationality it was shown that being Swedish had a positive effect on burnout and in relation to marital status it was shown that being married had a positive effect on burnout. Thus, the seventh hypothesis could not be fully supported since the majority of the demographic variables were shown to have no significant effect on burnout.

5. DISCUSSION

5.1. BURNOUT IN THE HUNGARIAN AND SWEDISH NURSES

Hypothesis 1: Since there are differences in the hospital organization, the hospital management, the hospital equipment etc. between Hungarian and Swedish hospitals, where Hungary is suffering from a deterioration in the hospitals policy-making, financing, management, service structure, patient's rights etc. (Piko, 1999), it was expected that these differences in hospital conditions between the two countries would contribute to higher burnout in the Hungarian nurses than in the Swedish ones.

The results connected to the first hypothesis showed that the Hungarian nurses had higher levels of emotional exhaustion, depersonalization, and lower levels of personal accomplishment than the Swedish nurses. On the other hand, the Swedish nurses had higher levels of personal accomplishment than the Hungarian nurses. This means that the Hungarian nurses had higher levels of burnout than the Swedish nurses. Piko (2006) has looked into the topic of burnout in Hungarian nurses and the reasons possibly lying behind it. According to Piko (op. cit.) Hungary has gone through a great deal of political changes. The hospitals have also been undergoing changes due to these political changes and consequently many hospital reforms have been undertaken. The political and health care system changes in Hungary can be dated back to 1989, where the hospitals have suffered changes with regard to ownership, funding, organization, patient's rights etc. These changes have resulted in cut backs within the health care and that nurses even today have very low salaries. Thus, the situation within the health care system and the hospitals in Hungary is suffering from many negative consequences for the health care workers which has a negative effect on the psychosocial working environment for the nurses, doctors etc. The situation in Sweden is much better in relation to the health care system. Even though Arnetz (1999) for example has mentioned that hospitals in Stockholm have undergone organizational and economical changes, the situation in Swedish hospitals has still not deteriorated as much as in Hungary. For example, Nilsson et al. (2005) reported how the Swedish nurses in their sample were satisfied with working at their specific wards due to that the managers give them opportunities for extending their knowledge at work, that the management empowers them, and that the nurses had many opportunities for developing their competence. Now, these results can of course not be

generalized to other hospitals in Sweden but it is interesting that while reading literature in this area not one article was found where Hungarian nurses mentioned any positive aspects of their hospital work. Also in Sweden nurses have mentioned negative effects of hospital cut backs or hospital restructurings, like Arnetz (1999) for example who stated that the majority of the nurses in his sample confirmed that there had been an increase of the nurses workload during one year, however these negative effects are not mentioned to such a high degree as in Hungarian hospitals. The result in this study, where the Hungarian nurses experienced higher levels of burnout, is thus not surprising. Hungary has unfortunately experienced a great deal of negative political changes and these changes have affected the health care system dramatically. Maybe from one point of view it is not fair to compare the situation in burnout between two countries which have completely different historical backgrounds. Maybe it would have been more equal to compare two countries which share similar historical backgrounds and to see how they have developed in comparison to each other. In this sample it would have been surprising if the Swedish nurses would have experienced higher burnout than the Hungarian nurses since the conditions in the Swedish hospitals are better due to not experiencing years of politically difficult times. The reason why it was still decided that two such different countries would be examined against each other was that from another point of view burnout has (as far as this author knows) not been compared between Hungarian and Swedish nurses, and more specifically not in connection to emergency wards. Sherman (2004) has for example shown that burnout and stress levels could be different in different sections and in different nursing wards. Escriba-Aguir et al. (2006) has pointed out more specifically that nurses working in emergency wards are facing a number of psychosocial risk factors due to the nature of their work, like workload, working without colleagues, no social support, not much spare time, unmanageable working rotation, violent and demanding patients, patients with serious illnesses etc. The idea behind comparing Hungarian and Swedish nurses, was that these experiences might be similar regardless of culture or historical background and thus that the two countries could hopefully be compared with each other with regard to burnout. Thus the two countries would take part in this research on more equal terms. Sörli et al. (2005) showed that the Swedish nurses in their sample felt working in emergency wards to be a big responsibility. The nurses mentioned that the level of responsibility, their reactions towards patients, the work environment, and negative outcomes for patients had a negative effect on them, and that they expected a lot from themselves. Thus, Sörli et al. (op. cit.) described a very stressful and difficult working environment for their sample of Swedish nurses and thus burnout in this dissertation was thought of as being measured between two different countries

possibly sharing similar emergency ward working conditions. Still, since the Hungarian nurses were pointed out as probably suffering from higher burnout levels, the difficult health care situation in Hungary was being acknowledged but with the efforts of trying to allocate two similar wards in two very different countries. An interesting idea which is worth mentioning with regards to higher burnout in the Hungarian nurses, is connected to Maslach's (1982) theory of age affecting burnout scores. She mentions that in many workplaces there seems to be a critical year for burnout between the first and fifth year at ones workplace. Thus, if there is a difficulty for people to deal with burnout in the first five years at a workplace then they have a higher chance of leaving a workplace due to its negative effect on the person. If this is true then the workers who leave their workplace within the first five years will not be around to answer possible questions about the emotional strain of their workplace later when they are older. Thus, the older workers will be the people surviving the tough first years at a workplace and they will be the ones who have been able to deal with the early threats of burnout. Probably these will be the workers who report less burnout than their younger colleagues. Since it was shown in this dissertation that the Swedish nurses were on average older than the Hungarian nurses, a possible explanation could be that the burnout scores were higher in the Hungarian nurses due to their younger age. The older age and lower burnout in the Swedish nurses could be what Maslach (op. cit.) mentioned, that older workers will be the people surviving the first though years and thus would probably report less burnout. This explanation may offer an additional point of view of burnout being higher in this sample of Hungarian nurses, apart from the explanation of social and political differences between the two samples. The literature shows that not much research has been conducted in cross-cultural comparisons on burnout (Halbesleben & Buckley, 2004) and thus this study has contributed with important information to this gap in the present literature.

5.2. BURNOUT AND WORK-RELATED STRESS

Hypothesis 2: This study looked at how the nine different work stress factors were related to burnout in Hungary and Sweden. It was expected that **conflicts with the doctors, relationships with the patients, relationship with the patient's relatives, workload and stress related to tasks** would result in higher stress for the Hungarian nurses and give higher burnout scores for the Hungarian nurses in relation to these factors. On the other hand, **death and dying, problems with the colleagues, work and private life, being unprepared and**

feeling inexperienced would result in higher stress for the Swedish nurses and give higher burnout scores for the Swedish nurses in relation to these factors.

According to the results in association with the second hypothesis, it was shown that the Hungarian nurses scored higher on all of the work related stress factors except for two (relationship with the patients, and work and private life), which means that the Hungarian nurses reported stress in relation to seven of the nine work-related stress factors to a higher degree than the Swedish nurses. This means that the Hungarian nurses experienced more work stress in general than the Swedish nurses and that the first part of the second hypothesis was not supported since the Hungarian nurses experienced higher work-related stress on almost all of the work factors and not only on the ones assumed in the hypothesis. The only work related factor where the Swedish nurses scored higher was the **work and private life** factor (which was also assumed in the hypothesis to be higher for the Swedish nurses), however, this difference was not significant. Thus, the work and private life relationship causing more work related stress for the Swedish nurses can only be mentioned as a trend. When it comes to work related stress factors for nurses, Sörlie et al. (2005) conducted a research in order to find out important work related stress factors. They found for example that for the Swedish sample in their study, nurses identified four factors which were thought of as significant aspects of their jobs: responsibility for patients, time and frustration, divided tasks, and working alone. None of the nurses in their sample mentioned the balance between work and private life to be stressful or being a negative aspect of their work. Thus, this study identified a factor (the balance between work and private life) which previous research has not found and this factor could be further investigated in future research for Swedish nurses in order to see if it is important in the general nursing population in Sweden. However, one of the factors mentioned in the hypothesis as possibly causing higher stress for the Swedish nurses was **being unprepared**. This factor could be related to the time and frustration factor Sörlie et al. (op. cit.) mention. Probably for a nurse to feel unprepared she has to feel a lack of time for getting prepared. Furthermore, together with a feeling of not having enough time to prepare and thus feeling like being unprepared, also a feeling of frustration or stress may arise within the nurse. For the Hungarian nurses seven out of nine work stress factors were shown to play a part in their everyday working lives. Palfi et al. (2008) showed that in their sample, salary was a major factor for causing work related stress for the nurses. Salary was not included in the present study as a stress related factor, however it shows the variety of different factors being of importance for nurses within hospitals and in this specific case, Hungarian nurses.

Salary could possibly be included as an option for nurses to choose in future studies. Piko (2003) showed that work related problems and a lack of collegial support were related to negative health outcomes in her sample of Hungarian nurses. In this study it was shown that the Hungarian nurses scored higher on **stress related to tasks** and **problems with the colleagues**, than the Swedish nurses. These two factors may be related to Piko's (op. cit.) factors, where **stress related to tasks** could be connected to work related problems and **problems with the colleagues** could be connected to a lack of collegial support. Thus, this study and Piko's study seems to have found similar results or at least result which may be associated with each other and hence shows that two different samples of Hungarian nurses rated similar variables as causing work related stress.

In the second part of the second hypothesis it was expected that **conflicts with the doctors, relationships with the patients, relationship with the patient's relatives, workload and stress related to tasks** would result in higher burnout scores for the Hungarian nurses. On the other hand, **death and dying, problems with the colleagues, work and private life, being unprepared and feeling inexperienced** would result in higher burnout scores for the Swedish nurses. The results showed that for the Hungarian nurses **death and dying, conflicts with the doctors, problems with the colleagues, relationship with the patients, relationship with the patient's relatives, being unprepared and feeling inexperienced, workload, stress related to tasks, and summary of the work stress** could all significantly be related to emotional exhaustion. For the Swedish sample, **death and dying, conflicts with the doctors, problems with the colleagues, relationship with the patients, work and private life, relationship with the patient's relatives, being unprepared and feeling inexperienced, stress related to tasks, and summary of the work stress** could all significantly be related to emotional exhaustion. These results means that the second part of the second hypothesis was partly supported since the assumed work stress factors for each sample could be significantly related to burnout, however the ones not assumed in the hypothesis could also be significantly related to burnout in each sample. Also, **workload** was assumed to cause burnout only for the Hungarian sample, and **work and private life** was assumed to cause burnout only for the Swedish sample and these assumptions were supported in the data. Chang et al. (2006) has for example shown that the most frequent cause of stress for nurses was **workload**. Thus, the fact that the Hungarian nurses in this study experienced burnout in relation to workload have been shown in other studies as well. Also Lambert et al. (2004) have found that workload was the most frequent cause for stress among nurses in their

sample. Another researcher who found workload to play an important role in burnout for nurses was Potter (2006). She showed that high levels of burnout for nurses working in emergency wards could be related to increased workload and thus the Hungarian nurses in the present study working at emergency wards confirms the results of Potter (op. cit.). Researchers have however also found a negative influence of workload in connection to burnout, like for example Escriba-Aguir et al. (2006). The results of these authors shows that there are inconclusive findings in the literature regarding burnout and workload, and thus this study has hopefully contributed with interesting findings in support of workload playing a part for some (Hungarian) nurses but not for others (Swedish). The fact that **work and private life** caused burnout in the Swedish sample is an interesting finding and it shows that these Swedish nurses had problems with dealing with both work and private life. Also Visser et al. (2003) has found similar results where the nurses in their sample experienced stress in relation to how much their work interfered with their private life. This shows the importance of being able to keep a balance between work and private life, something that the Swedish nurses in this sample could benefit from help in dealing with. For the Swedish and Hungarian nurses, **death and dying** was significantly related to burnout and in the literature also Chang et al. (2006) have found the same results. In addition, Lambert et al.'s (2004) cross-cultural research found that death and dying were the most frequent cause for stress among nurses. Thus, it seems like this work-related factor is playing a part in burnout in other studies as well. **Conflicts with the doctors** and **problems with the colleagues** had an effect on the Hungarian and Swedish nurses' burnout. Chang et al. (2006) have also shown that conflict with doctors and other nurses have a stressful effect on the nurses. Another researcher who showed that conflicts with colleagues had significant outcome on nurses' emotional exhaustion was Lee & Akhtar (2007). Maslach (1982) stated that burnout may occur in connection to a nurse's colleagues and that the relationship with the supervisors is very important. Also Potter (2006) has shown that non-existing support from supervisors and dealing with physicians can be related to burnout in nurses. Thus, this study confirmed results of previous research in two specific work-related factors and burnout. For the Swedish and Hungarian nurses, **relationship with the patients** and **relationship with the patient's relatives** could be related to burnout. In previous research it has been shown by Lee & Akhtar (2007) that conflicts with patient's family members and responsibilities for the patients had significant outcome on nurses' emotional exhaustion. Also Badger (2005) reported that for nurses in emergency care the age of the patient played an important factor in the way the nurses treated them. Thus, the age affected the nurse's relationship with her patient. Badger

(op. cit.) also reported that the nurses in his sample felt that many of the times the family of the patient would exhibit too high demands about a patient's treatment without having the medical background to do so. The families sometimes would have requirements which the nurses felt they were not able to meet and that a lack of understanding from the family made the nurses work much more difficult. The Swedish and Hungarian nurses in the present study could not express such a detailed explanation in relation to relationship with the patient's relatives since the present study was a quantitative one using a questionnaire, however they did express the relationship with the patient's relatives to cause emotional exhaustion and thus making their work much more difficult. In the present study it was found that **personal accomplishment** could not be associated with work stress for either the Swedish or the Hungarian nurses. This was an interesting finding which has also been confirmed by Garrosa et al. (2006) who stated that when looking at a lack of personal accomplishment, they could not find significant associations between this dimension and workload. Garrosa et al. (op. cit.) could not find an association between personal accomplishment and specifically workload; however the present study failed to find a connection between personal accomplishment and work-related stress in general. Even though, previous research gives an indication of personal accomplishment maybe having a minor connection to work-related stress, and maybe especially workload. The situation seems to be different for emotional exhaustion, where Garrosa et al. (op. cit.) found that it was the emotional exhaustion dimension which had the main amount of explained variance in relation to work stressors. This holds true also for the present study, where it was shown that emotional exhaustion was the most sensitive to the work stress factors in both the Swedish and Hungarian nurses. Other researchers have also found emotional exhaustion to be highly related to work-related stress factors (see for example Cherniss, 1980; Lindblom et al., 2006; Maslach & Jackson, 1981; Posig & Kickul, 2003). Overall, it seems like work-related factors have a significant connection to burnout in the present study and also in previous studies, and it has been shown by Garrosa et al. (2006) that approximately 20% of the three dimensions of the burnout were explained by the work stressors in their study.

5.3. BURNOUT AND LIFE SATISFACTION

Hypothesis 3: Life satisfaction was investigated in this study and the differences in life satisfaction scores was expected to be positively related to burnout. Since it has been shown that life satisfaction is higher in Sweden than in Hungary (Veenhoven, 2008), it was expected that higher life satisfaction scores would be found in this Swedish sample, and that this would be related to lower burnout scores for the Swedish nurses. Thus, it was anticipated that life satisfaction would serve as a protective factor for the Swedish nurses.

In connection to the third hypothesis it was shown that life satisfaction was higher in the Swedish sample than in the Hungarian sample and this difference was highly significant. Since it was found that life satisfaction was higher in the Swedish sample than in the Hungarian sample, and since this difference was highly significant, the third hypothesis was supported. Also, it was shown that country was one of the variables which highly determined life satisfaction in this sample of Hungarian and Swedish nurses. This result has also been supported by Veenhoven (2008) who showed that life satisfaction in the Swedish population is higher than in the Hungarian population. The Swedish nursing population in this study is representing the Swedish population mentioned by Veenhoven (op. cit.), since there could not be found specific life satisfaction scores for Swedish and Hungarian nursing population. However, the fact that the Swedish nurses seems to be more satisfied with their lives in this study is maybe not surprising after it was also shown that the Hungarian nurses scored higher in relation to work-related stress and burnout. Diener & Tov (2005) have suggested that life satisfaction can be reliably measured across nations and that the life satisfaction concept in itself is understood in an equally way in many different countries. Thus, the results in this study can be considered to be reliable and that the life satisfaction scores for the Swedish and Hungarian nurses in this study are reflecting the actual life satisfaction for the nurses in this study. The explanation lying behind the results could be the same political changes which have been mentioned in relation to the Hungarian nurses scoring higher on burnout. Thus, as mentioned before Hungary has gone through difficult political times in the past and the consequences of these changes are still noticeable in the everyday life of the Hungarian people. According to Piko (2006) Hungary is a society in the middle of a post-socialist transformation and in this society the health care system is going through many changes due to an enduring reform. Due to the post-socialist transformation, many of the changes taking place have probably disadvantageous effects for the Hungarian people and maybe for nurses

in particular. Thus, lower life satisfaction scores could be explained by the fact that the Hungarian nurses have to live with these post-socialist transformations and face them every day at their workplaces, whereas Swedish nurses have a completely different and more stable political background not related to post-socialist transformations, making their lives in- and outside their workplaces much easier, and hence much more satisfactory.

In the second part of the third hypothesis it was assumed that higher life satisfaction scores would result in lower burnout scores for the Swedish nurses. The results showed that this was not the case. Thus, this part of the third hypothesis was not supported. It was shown that life satisfaction did not have any influence on burnout, even when nationality was taken into consideration. Demerouti et al. (2000) conducted a research with regard to burnout and satisfaction with life, and found a connection between emotional exhaustion and life satisfaction. They especially found a connection between burnout and life satisfaction in relation to relationships with the patients, time pressure, physical and mental workload, negative environmental conditions, and problem with the schedule. Since relationships with the patients, workload, and negative environmental conditions were also mentioned under work-related stress factors in the present study, it would have been interesting to see whether these factors could have been significantly correlated with life satisfaction in the present study as well. Lee et al. (2004) have found that life satisfaction is negatively associated with burnout. More specifically, they found that life satisfaction was more significantly related to negative work effects than positive ones. Their study found that personal accomplishment and emotional exhaustion were the two dimensions most significantly predicting life satisfaction. Thus, lower levels of emotional exhaustion and higher levels of personal accomplishment reported higher levels of satisfaction with life. This is contradicting to the findings in the present study, which failed to find any associations between burnout and life satisfaction. Tait, Padgett & Baldwin (1989) found that life satisfaction was more significantly related to positive work effects than negative ones since they found a significantly positive association between life satisfaction and satisfaction with the job. This is in contradiction to Lee et al.'s (2004) finding. A study which showed that burnout cannot be connected to either negative work effects or positive work effects was Demerouti et al. (2000) who showed that job demands and job resources did not have any affect on life satisfaction in their sample of nurses. Also, Gulalp et al (op. cit.) showed that burnout was not related to life satisfaction and the researchers point out the fact that in their research, organizational factors had a more significant impact on burnout in their sample of emergency nurses than life satisfaction. Thus,

the findings in connection to life satisfaction and burnout seem to be rather inconclusive and since the present research failed to find a connection between burnout and life satisfaction, it cannot contribute with arguments for either sides. More research is needed in this area in general in order to determine if life satisfaction can be connected to burnout. However, also more specific research needs to be conducted in order to find out if a connection between life satisfaction and burnout can be made for nurses specifically and also if the connection can be made for emergency ward nurses in particular.

Life satisfaction in connection to burnout needs thus further research in order fill the gap between the inconclusive findings. Also, Lee, Hwang, Kim & Daly (2004) state that when it comes to research done in the field of nursing, researchers have focused on work stress and how nurses are responding to their working environment, like level of satisfaction with the work and burnout. However, not much attention has been paid to the field of nurses and their well-being like for example life satisfaction. It would, however, be important to conduct research in this area since nurses' life satisfaction could influence their performance at work and the job retention. Life satisfaction connected to the work setting and health has been looked into but not so much in the field of nursing. In addition, since the research clearly shows inconclusive findings in relation to burnout and life satisfaction it would be important to conduct more research in order to contribute with more information in this area and thus confirm or disconfirm previous findings.

Nemcek & James (2007) conducted a study which wanted to investigate nurses' opinions about factors related to their working environment and health to be able to see how these are connected to each other and to life satisfaction. In their study both personal factors and work related factors contributed to elevated levels of life satisfaction. As a continuation of Nemcek & James' (op. cit.) research, the present study could have looked into the nine work related factors, as the nurses working environment, to see how those are connected to life satisfaction. It could have been investigated whether the nine work related factors would have contributed to higher levels of life satisfaction, just like in Nemcek & James' (op. cit.) research. Also Lyubomirsky et al. (2005) looked into the area of life satisfaction and the work environment for nurses, and they found that increased levels of life satisfaction were connected to low levels of job dissatisfaction at work. As a continuation of Lyubomirsky et al's (2005) study, the present study could have looked into if dissatisfaction with the job for the Hungarian and Swedish nurses would have resulted in lower or higher levels of life satisfaction.

5.4. BURNOUT AND PERSONALITY

Hypothesis 4: The relationship between personality and burnout was investigated in this study and more specifically, psychological immunity (as the personality factor) was expected to have an effect on burnout. Since the psychological immunity has been shown to be higher in Sweden than in Hungary (Olah, Nagy & Toth, 2009), it was anticipated that the psychological immunity for these Swedish nurses would be higher. It was also expected that the higher psychological immunity in the Swedish sample would serve as a protective factor against burnout and thus would give lower burnout scores for the Swedish nurses in relation to this.

The first part of the hypothesis, that the psychological immunity for the Swedish nurses would be higher, was supported by the fact that the Swedish nurses had higher means for all of the 16 subscales except for the subscale **Sense of Control**. Thus, the first part of the fourth hypothesis was supported since the Swedish nurses scored higher on the majority of the 16 psychological immunity subscales. When looking at only the three main factors of the psychological immune system, it was again shown that the Swedish nurses attained higher means for all of them, the Approach-Belief System, the Monitoring-Creating-Executing System, and the Self-Regulating System. Consequently, it can be concluded that the first part of the fourth hypothesis was supported also in connection to the three main factors of the psychological immune system for the Swedish nurses. There has not been research done in the field of comparing Swedish and Hungarian emergency nurses and their levels of psychological immunity, as far as this author knows. It would be interesting to look into this are since the history of Hungary and Sweden is very different. Hungary had to go through very difficult times during the communistic era, which Sweden never had to face. The experience of the people during that time must have made an immense impact on people and their personality. In the hospitals in Budapest, some of the nurses taking part in this study must have experienced those difficult times personally. Other nurses, or the younger generation, have not experienced those difficult times personally but have probably been exposed to it secondarily. It can be assumed that experiencing the events secondarily, through experiences and stories told by parents, grandparents, and other relatives, must also have had an impact on younger people since they could relate to the stories being told by the close immediate family. Also, since Hungary is still carrying around the burden of the difficult communistic times, like for example the slow changes in the health care system and the low

salaries of health care system personnel, even the younger nurses today are experiencing the results of the then harsh political situation (see Piko, 2006). Thus, if one looks at the result in the present study, where the Hungarian nurses scored lower on psychological immunity, from this point of view, the results might not be that surprising. The results of the personality measure in this study might reflect the difficult history of Hungary compared to Sweden, which did not have to go through such difficult times as Hungary. If this is the case, then it is also interesting to note the impact of the history on this sample of Hungarian nurses and the extent to it is still having an influence on the lives of this sample of Hungarian emergency nurses today. Having theorized about this possible explanation for Swedish nurses having higher psychological immunity it must however also be mentioned that more research is needed in this area, where researchers should try to give reasons and explanations for differences in psychological immunity between nations.

The second part of the fourth hypothesis looked at the connection between higher psychological immunity and lower burnout scores for the Swedish nurses. The connection between burnout and personality has been extensively investigated by other researchers and the results have yielded mixed results. One thing the majority of them have in common though, is the fact that they agree that personality does have an impact on burnout. The only question is which personality type this impact can be attributed to. Maslach (1982) has concluded that the burnout syndrome does not take place for everybody continually. There are apparent individual differences in burnout and these individual differences seem to be connected to differences in personality among people. Also Brewer & Shapard (2004) have found that individual factors can be linked to burnout by specific personality characteristics. Several other researchers have mentioned the importance impact of personality in the development of burnout (see for example Bakker et al., 2006; Baramée & Blegen, 2003; Harrison et al., 2002; Houkes et al., 2003; Schmitz et al., 2000). According to these researchers personality might offer a very important explanation of burnout.

Maslach et al. (2001) states that the area of personality in relation to burnout has been studied in order to find which type of personality may experience burnout to a higher degree, i.e., which the burnout personality is. The personality types which have been linked to burnout are for example introversion and extroversion; sensitive and idealistic persons; people who are too enthusiastic, empathic, anxious, or obsessive traits; hardy personality; having external locus of control; the Big Five personality dimensions like neuroticism, extraversion, openness

to experience, agreeableness, and conscientiousness (especially neuroticism); Type-A behaviour; and rational versus emotional personality types. These personality characteristics are said to have a higher risk of developing burnout and thus have been subjected to research. The interesting idea to note here is that psychological immunity does not seem to have been researched to such a high degree as the above mentioned ones, if at all. The present research chose to focus on psychological immunity because the research on burnout and psychological immunity is very scarce or even non-existing. Thus, the present research wanted to contribute with information in this area and has hopefully started to fill the gap in the literature in relation to this area. Psychological immunity is a construct which can be connected to psychological health and environmental stress (Olah, 2005). It is a system which includes personality dimensions related to cognitive, motivational, and behavioral aspects which all should present a person with immunity to deal with stress. Thus, due to this, psychological immunity seems to be an ideal measure to use in connection to burnout, since burnout is a form of environmental stress and since psychological immunity is a construct designed to show a person's immunity to deal with that kind of stress. Future research with regards to personality and burnout should thus consider psychological immunity as a personality factor to use in order to show whether it can be connected to burnout, and if so, if the relationship is positive or negative.

Simoni & Paterson (1997) have also reported about findings on personality associated with burnout. More specifically they have reported on intensive care unit nursing burnout compared to nurses working in non-intensive care units and hardy personality. They found that it was hardiness and not specific work-related stressors which accounted for significant associations with burnout in the intensive care and non-intensive care unit nurses. Simoni & Paterson (op. cit.) also conducted another research which looked at burnout in geriatric nurses and psychosocial factors in association with it. This research found that hardy personality was the single most significant predictor of burnout. Browning et al. (2006) on the other hand, found a positive association between burnout and perceived loss of control. Leon et al. (2008) stated that significant associations have been found in relation to burnout and personality factors like neuroticism and extraversion. Also, Bakker et al. (2006), Lakin et al. (2007), Manlove (1993), and Maslach et al. (2001) have found emotional exhaustion and depersonalization to be predicted by neuroticism. All of the above mentioned results point out the fact that there is an obvious connection between personality and burnout, and the fact that different researcher sometimes find different personality factors to be connected to

burnout simply shows that the area of personality and burnout still has a long way to go before more unified results can be found (if ever). The nation-based differences which were found in the present study also shows that research should take into consideration that different cultures or countries could possibly attain different connections between burnout and personality. Also, research can look at different nursing wards, and look at the differences between personality and burnout there. Possibly research should not merely be targeting nurses but should include other health care workers as well to see if the situation is different there, and future research could even make comparisons between nurses and other health care workers.

The fact that the present study showed that higher psychological immunity resulted in lower burnout for the Swedish nurses; the second part of the fourth hypothesis could be supported. Other researchers have still to confirm these results and this study hope to have contributed to the gap in the literature in connection to this area. This study also hopes to have contributed with a new branch of the burnout research tree, which hopefully will give other researchers a curiosity to either confirm or disconfirm the present study's findings.

5.5. BURNOUT AND SOCIAL SUPPORT

Hypothesis 5: In this study social support was expected to serve as a protective factor for the Hungarian nurses. It was anticipated that the Hungarian nurses would be married or in a relationship to a higher degree than the Swedish nurses and thus gain more social support from a husband or partner. This higher degree of partner support, resulting from being in a relationship, would then be expected to be related to lower burnout in the Hungarian nurses.

When it comes to the results for the fifth hypothesis, regarding burnout and social support, it was shown that no significant differences could be found for social support between the two samples. Since social support was proven not to be significantly different in the Hungarian and Swedish nurses, it could not be related to lower burnout for the Hungarian nurses. Thus, the fifth hypothesis could not be supported. This result was somewhat disappointing since numerous previous studies have found a positive relationship between social support and burnout (see for example Baruch-Feldman et al., 2002; Carlson & Perrewé, 1999; Schaufeli & Greenglass, 2001). However, the results were not completely discouraging since there have

also been studies who have found more inconclusive associations in the area of social support and burnout (see for example Burke & Greenglass, 1996; Koniarek & Dudek, 1996). Halbesleben & Buckley (2004) have pointed out that there has been a vast amount of research done over the past 10 years in the field of social support and burnout, and the role social support plays in the development of burnout. Looking at this vast amount of research, it can be seen that not all studies have found a positive association between burnout and social support. Maybe also negative results like the present study attained are important, in order to show the inconclusiveness in the association between social support and burnout, and thus boost other researchers to conduct more research in this area.. Another interesting aspect in connection to this area is the fact that research also has shown that social support in relation to burnout may be counterproductive (Halbesleben & Buckley, 2004). Also Deelstra et al. (2003) have pointed out that social support may work as a threat. More precisely, Halbesleben & Buckley (2004) state that the temporal component of social support has to be addressed, since it might have a negative long-term effect on burnout. The researchers say that if social support is only given for a short amount of time and then it is being withheld, it might have a negative effect on the nurse and might still lead the way to burnout since the social support was not accessible for the person under a longer period of time when still needed. This idea is interesting and it shows that it is important to maybe focus more on the support given by family members or close friends instead of co-workers. If a nurse has a close relationship with her family, they are there to support her unconditionally, whereas the co-workers might have problems of their own and may find it difficult to be there unconditionally for their colleagues. Usually people have a closer relationship with their family than their colleagues. Also Payne & Jones (1987) state that the different types of social support (which can be from supervisors, colleagues, family members etc.) has to be distinguished in order for the research being conducted to be more comprehensible. Regarding social support from family and friends in connection to burnout, the literature has to a high degree shown a positive association. Demir et al. (2003) has shown that when it comes to personal accomplishment, the nurses who received support from a husband or a child had the highest levels of personal accomplishment. This shows that support from close family members is of clear benefit for a nurse. Parikh et al. (2004) state that nurses who have a high level of social support both at their work and in their personal life, are less prone to burnout and are more satisfied with their lives. This result could maybe suggest that if a nurse receives support from both close family members and colleagues, it is having the biggest benefit in relation to burnout. For a nurse to

feel supported at home and feel the same amount of support at her workplace must have truly positive benefits and should possibly be researched more extensively.

Most of the research done in the field of social support and burnout have looked at a specific health care worker group and then looked at to which degree their stated social support could be related to burnout (see for example the above mentioned studies). The dispute in the current research literature is then if the studies could make this connection or not. The present study falls somewhat out of the frame of the previous research being conducted because this study was done as a nation-based one and it made the assumption that the Hungarian nurses would be married to a higher degree and thus have higher social support from their spouses, which would then result in lower burnout for them. Previous research in this area has not been found and thus it is difficult to entirely rely on previous research to strengthen the present study's results. Social support in (emergency) nurses in different countries is somewhat of a novelty and especially a comparison between Hungarian and Swedish emergency nurses have not been found in previous researches. The fact that the Hungarian nurses were not married to a higher degree than the Swedish nurses made it impossible for the hypothesis to be further investigated. The assumption that the Hungarian nurses would be in a relationship to a higher degree was made because it was hypothesized that Hungary is a more collectivistic society and as such is rating family values higher than Sweden. Sweden was in line with this idea thought of as a more individualistic society with the majority of people being single as a result of this. The unexpected result that social support turned out to be high for both the Swedish and the Hungarian nurses very were interesting results. Thus, first of all it shows that social support does not have to be connected to marital status since the majority of the Hungarian nurses were single and still they experienced high levels of social support from friends and significant others. Second of all, being married does not have to be a guarantee for high levels of social support as hypothesized in this study. Since the Hungarian and the Swedish nurses in the present study were shown to experience high levels of social support it might be assumed that the nurses' levels of psychological well-being in these two samples are high. Just as Harris & Thomson (1993) have shown, that high perceived social support is connected to higher psychological well-being.

5.6. WHICH FACTORS CONTRIBUTED TO HIGHER BURNOUT?

Hypothesis 6: Across the two samples it was looked at which factors contributed to higher burnout. Thus, it was investigated whether lower levels of work stress, higher life satisfaction, higher psychological immunity, or higher levels of social support would serve as the most protective factors against burnout, across the two samples.

In the present study it was shown that burnout was directly influenced by **nationality**, by **work stress**, and by **psychological immunity**. More precisely, Swedish nationality and psychological immunity were both shown to serve as protective factors against burnout in this study. Therefore, when it comes to the sixth hypothesis and which variable(s) would serve as the most protective factor against burnout, across the two samples, it was shown that **higher psychological immunity** was the best protective factor against burnout. After that it was **Swedish nationality**. Low levels of work-related stress, higher life satisfaction and higher social support did not directly serve as a protective factor against burnout. Previous research done in the field of burnout and which factors are affecting it, have shown a variety of factors affecting burnout. Garrosa et al. (2006) for example showed that burnout could be explained by work stressors. Other researchers have also found emotional exhaustion to be related to work stress factors (see for example Cherniss, 1980; Lindblom et al., 2006; Maslach & Jackson, 1981; Posig & Kickul, 2003). In the present study work stress did have an influence on burnout but lower levels of it did not serve as a protective factor against burnout. Thus, the present study can confirm previous research findings. Garrosa et al. (2006) concluded that personality could significantly predict burnout in their study. In the present study the personality factor was represented by the psychological immunity, which was shown to have an effect on burnout. More precisely it was shown that it was higher levels of psychological immunity which served as the best protective factor against burnout. It is interesting that personality was shown to have the most significant effect on burnout in this study and that previous research also has found personality to be of such importance. The fact, however, that psychological immunity has not received much attention in the research of burnout could certainly be encouraged to receive more attention after the present study's result. Schmitz et al. (2000) reported on the effects of locus of control on burnout. The researchers suggested that locus of control would predict burnout. It was found in their study that increasing burnout scores were associated with decreased locus of control in this sample of nurses. Thus, Schmitz et al. (op. cit.) showed that personality and burnout could also be associated with each other

and that lower personality scores gave higher burnout. This is also true for the present study; the only difference is that the variable which measured the personality factor was psychological immunity.

When looking at which factors contribute to higher burnout or is serving as the best protective factors against burnout, prior research has looked into a vast amount of factors. Many of them can be related to the working environment and work related stressors, like a lack of nursing staff, waiting times, shortage of beds, deficient resources, too many patients at the ward, low levels of organization, aggressive patients, workload, role ambiguity, interpersonal relationships, non-existing support from supervisors, dealing with physicians, and worries about patient's death/dying (see Potter, 2006; Gulalp et al, 2008; Parikh et al., 2004). Personality has still not undergone the same amount of research but it should receive more attention. The present study found that Swedish nurses with high levels of psychological immunity were the nurses who were mostly protected against burnout. Even though work stress factors turned out to be significant as well, but not as a protective factor, work related factors should by no means be forgotten in the study of burnout. However, personality is maybe a factor which should get more attention and then more specifically psychological immunity. Also nationality was a significant protective factor against burnout and since no other research has been found where they compare Swedish emergency nurses with Hungarian emergency nurses, it is impossible to confirm or disconfirm the results of the present study. However, differences in burnout should be looked into further, where researchers compare the two present countries but where researchers also conduct research with a bigger range of nationalities, in order to add to the information of nation-based burnout differences.

5.7. BURNOUT AND THE DEMOGRAPHIC VARIABLES

Hypothesis 7: In this study the following variables were also looked into and connected to burnout: **age, marital status, number of children, educational level, number of years working as a nurse, and number of hours worked per week.** These variables were looked into because all of them were expected to have an influence on burnout: lower age, not being married, having no children, lower educational level, less years of working as a nurse, and

more hours worked per week were assumed to have a negative influence on burnout scores across the two samples.

The only two variables which showed to have a significant effect on burnout in the present study were **nationality** and **marital status**. In relation to nationality it was shown that Swedish nurses had lower levels of burnout and in relation to marital status it was shown that married nurses scored lower on burnout. Thus, the seventh hypothesis could not be supported completely since all of the demographic variables were expected to have an influence on burnout; however it was shown that the majority of the demographic variables did not have a significant effect on burnout. Thus, lower age, having no children, lower educational level, less years of working as a nurse, and more hours worked per week were shown not to influence burnout across the two samples in the present study. An important point to emphasize is the fact that the Swedish nurses were on average older than the Hungarian nurses. Since these age differences were found, it could unfortunately have influenced the comparisons between the two samples. When looking at the outcomes it is important to keep these inequalities between the two samples in mind. That these unfortunate outcomes were attained was outside the control of this study and it is important to keep in mind that hospitals were contacted on equal terms in both Hungary and Sweden.

In general it can be said that researchers have found evidence for both sides of the coin of burnout and demographic variables. Thus, the results attained in this study is not as surprising as they might seem, since for example Dillon & Tanner (1995), and Friedman & Farber (1992) did not find any connection between demographic factors and burnout. Also Palfi et al. (2008) have shown that burnout was mainly associated with the work-related environment and that thus demographic variables were not seen as significant risk factors. The fact that the present study did find significant associations between nationality, marital status, and burnout, confirms that some demographic variables have been shown also in previous research to have an influence on burnout. For example Jackson (1993) has established considerable differences in burnout levels connected to demographic variables such as gender, age, and marital status.

When it comes to **age**, Maslach et al. (2001) discussed that demographic variables have been extensively studied in relation to burnout. Among all the demographic variables which have been looked into, age is the variable which most of the researchers have been able to continuously connect to burnout. Maslach (1982) have also shown that there is an obvious

connection between age and burnout. More precisely, she has shown that burnout occurs more frequently among younger workers than older ones. This result has also been attained by Garrosa et al. (2006), Ergin (1993), Potter (2006), and Alimoglu & Donmez (2005). Also Brewer & Shapard (2004) have attained same results, showing that older nurses reported less burnout than younger nurses. All of these studies are in contradiction with the results in the present study, since this study did not find any connection between younger age and burnout. However, looking at the age differences in the Hungarian and Swedish samples it would have been a golden opportunity to confirm previous studies in connection to younger age and higher burnout, since the Hungarian nurses were younger than the Swedish nurses. Thus, taken the previous research into consideration the Hungarian younger nurses would have scored higher on burnout than the older Swedish nurses. That differences like these could not be found, maybe shows that when other factors were included, like nationality, it outweighed the results for the connection between age and burnout scores in this study.

Looking at **marital status**, Cordes & Dougherty (1993) have for example shown that people who are married reported less burnout than single people. Maslach (1982) showed that nurses who are single are the ones most prone to burnout and married people are less prone to burnout. Thus, previous research has shown that marital status can have a clear relationship with burnout. In this study it was shown that marital status was one of the two variables associated with burnout and thus the present study can confirm the findings of previous research. More precisely it was shown that the Swedish nurses were married to a higher degree while the Hungarian nurses were single to a higher degree. Here the age differences between the samples have to be kept in mind and probably the Swedish nurses were married to a higher degree since they were older. Thus, it is difficult to theorize about other reasons for this result and comparisons between two more equal samples would have been preferable. The burnout scores in the present study showed that being **widowed** had the **highest** emotional exhaustion and **married** nurses had the **lowest** levels of emotional exhaustion. No other marital status variable was significantly different from other variables in terms of burnout. Looking at previous research, singles have been mentioned as the group suffering from highest burnout (see for example Maslach, 1982) however it is not known whether widowed nurses were included in that research or not. Thus, the present study did not confirm previous findings in relation to single people having the highest burnout scores but showed instead that widowed nurses scored the highest burnout. In a way, it is not surprising that widowed nurses had the highest levels of burnout, since this is probably a more stressful state than being a

single. Being a widowed means that you have lost a beloved partner (after probably a number of years together) and the loneliness after losing a loved one is probably a different kind of loneliness a single nurse might feel. The fact that married nurses scored the lowest on burnout in the present study is in accordance with previous research and thus this study have confirmed those results (Cordes & Dougherty, 1993; Maslach, 1982). However, the fact that Martini et al. (2006) and Gulalp et al. (2008) found that (among other demographic variables) marital status could not be related to burnout, still shows the inconsistencies in the research results in connection to marital status and burnout. It is therefore important to conduct more research in this area to diminish the inconsistencies.

When exploring the issue of the **number of children** a nurse has, it was shown that the Swedish nurses had more children than the Hungarian nurses. Again, it is important to keep in mind the age differences between the two samples and higher number of children for the Swedish nurses could have been attained due to the Swedish nurses being older. Once again it makes the interpretation of the results very difficult and a less age gap between the samples would have made comparisons more accurate. In connection to burnout, it was shown that the number of children a nurse had did not have a significant influence on burnout in the present study. In previous studies, Martini et al. (2006) and Gulalp et al. (2008) have found that burnout could not be related to having children or to the number of children in nurses. Thus, since the present study also failed to find a relationship between number of children and burnout, it can confirm the findings of previous research in connection to burnout and having children in nurses. In contrast to this other studies have found a connection between burnout and having children, where Beaver et al. (1986) found that the more children a nurse had, the higher her level of emotional exhaustion would be. Maslach (1982) on the other hand found that having no children could be associated with an increased risk of burnout. Maslach's (op. cit.) finding was the assumption of this study (having no children would result in increased burnout) and even though it was not confirmed in this study it does show that such a relationship might have existed. It is interesting to note that two such different facts like the more children a nurse have and having no children at all may contribute to burnout. One might think that it should be either or contributing to burnout and not both. The reason why having no children was chosen in this study to possibly be related to burnout was that even though children require a lot of attention and can be stressful to look after in many ways (possibly why an association between the more children a nurse have and burnout can be found in previous research) there is a very strong bonding with ones children and the stress in

connection to them was not thought of as such a negative one. The experienced stress might also be outweighed by all the positive attributes of having children and thus the children are mostly viewed in a positive light instead of a negative one. Thus, having no children and missing out on the positive aspects of raising children was thought of as being more stressful than the stress caused by actually having children. In the literature there is evidence for both which shows that both ideas mentioned could be possibly true for nurses.

In the light of **education**, there were major differences between the Swedish and the Hungarian nurses and it turned out that Swedish nurses were more educated than the Hungarian nurses. An important factor to mention here is the required educational level in the two countries and there are probably differences in the university studies in becoming a nurse in the two countries. Thus, comparisons between the two countries must again be made with caution and it has to be kept in mind that maybe Swedish nurses are required to go through a longer educational process than the Hungarian nurses. The differences could also be due to the age differences between the two samples. Since the Swedish nurses were shown to be older than the Hungarian nurses, maybe the Swedish nurses have had the opportunity to educate themselves further to a higher degree than the Hungarian nurses. Younger nurses will probably want to work as a nurse at their current workplace for a couple of years before they think about making a second diploma or educate themselves further. Thus, again interpretations regarding the educational aspect between the Swedish and Hungarian nurses have to be made with caution. Looking at education in connection to burnout, it was shown that the educational level did not have a significant influence on burnout in this study. In general in previous research it can be seen that educational levels and burnout seem to be associated with each other. Maslach (1982) have for example shown that burnout seem to occur among those people who have a college education but who do not have postgraduate training. In relation to this, Tyler & Ellison (1994) reported opposite results, in that nurses having higher degrees of education also reported higher levels of stress. However higher education does not necessarily mean that it is causing burnout to a higher degree, since for example Barry (1984) showed that as the level of a nurse's education was increasing so was the nurse's experience of personal accomplishment, workplace satisfaction, and with higher educational status nurses also coped more sufficiently with work related stressors. All of these factors had in turn a reduced effect on the burnout levels of the nurses. Also Dahl & O'Neal (1993) reported similar finding in that higher educational levels in their study were connected to a more sufficient way of coping with stress and decreased burnout levels. An interesting

finding was reported by Piko (2006) where she showed that education and burnout was connected to each other in that education had a negative effect on depersonalization and a positive effect on personal accomplishment. Also in this research it was thus shown that the educational factor served as a protective factor when facing bad work-related issues. In contrast to this Alimoglu & Donmez (2005) showed that the level of education could only be connected to emotional exhaustion in their study. Looking at these previous researches it is clear that education does seem to have an effect on burnout in the majority of cases. The fact that the present study could not find any connection between the two variables is thus not supporting previous research in this area. Since there was a difference in the educational level between the two samples of nurses it could have been interesting to see positive results in connection to education and burnout, since both higher and lower education status could be found in this sample of nurses. Thus, it could have been shown whether it was lower educational level which had the most significant connection to burnout or if it was higher educational level contributing to higher or lower burnout. It is a surprise that neither the lower education level nor the higher educational level could be related to burnout in this sample of nurses. However, again it must be mentioned that any comparisons between the samples must be made with caution since the differences in education level were big.

In connection to the **number of years working as a nurse**, the Swedish nurses had worked more in their profession than their Hungarian colleagues. However, since the Swedish nurses were older than the Hungarian nurses this finding is not surprising. Thus, the comparison and interpretations between the two samples has to be made with caution. In relation to burnout, the number of years working as a nurse did not have a significant influence on burnout in the present study. Brewer & Shapard (2004) states that, considerable researches have brought up years of experience as having an effect on burnout. Some researches have not found any relationships between years of experience and burnout, while other studies have found such relationships (see for example Konert, 1997; Laub, 1998). The researches who have not found a relationship between burnout and years of experience seem to be in minority. Many of the researches looking into this area have found an association between the two variables. Brewer & Shapard (2004) for example showed that nurses who had worked at their current workplace for a longer period reported less burnout than nurses who had worked at their current workplace for a shorter period of time. Also, Ergin (1993) showed that the level of burnout increased in younger nurses with less working experience in comparison to older nurses with more working experience. In addition, Oehler et al. (1991) demonstrated that newly recruited

and young nurses working in the intensive care unit obtained higher levels of burnout more quickly than nurses who had been working there for a longer time. Lastly, also Stewart & Arklie (1994) and Martini et al. (2006) confirmed that nurses with less working experience are suffering from increased burnout levels. Interestingly the present study did hypothesize that less years of working experience would give higher levels of burnout, just as stated in the previous research findings; however it could not confirm the above mentioned results. Thus, in the present study less working experience could not be related to higher burnout levels. Since the Hungarian nurses in this study had less working experience than the Swedish nurses, it would have been interesting to see if this study could have confirmed previous research results for the Hungarian nurses to a higher degree than for the Swedish nurses. However, as mentioned before, such interpretations could only have been made with caution due to the age difference between the two samples.

Examining the **hours worked per week** for the Hungarian and Swedish nurses, it was shown that there were major differences in hours spent at work between the two samples. The Hungarian nurses worked 40 hours to a higher degree than the Swedish nurses, while the Swedish nurses worked less than 40 hours to a higher degree than the Hungarian nurses. These differences in the samples are unfortunate because it is making interpretations of the results more difficult due to sample inequalities. The fact that, it was shown that the number of hours worked per week did not have a significant influence on burnout in the present study is interesting since, going back to the original idea of less working hours being connected to lower burnout score for the Swedish nurses, it might be assumed that the lower burnout scores in the Swedish sample might have been related to the fact that the majority of the nurses worked less than 40 hours per week. The fact that no relationship could be found between working hours and burnout does not confirm this theory but shows that the idea is not completely wrong since in another study this result was attained. Van der Shoot et al. (2003) made a comparison between the burnout levels in 10 different countries and found that the lowest scores in burnout were obtained for the Dutch nurses. This result was explained by the fact that the mean hours of work was the lowest in the Netherlands, with 25 hours per week. Thus, Van der Shoot et al.'s study shows that the same theory could have been applicable in the present study. Also Martini et al. (2006) showed that hours worked per week could be connected to burnout in that burnout increased for the nurses in their sample when the hours of work per week increased as well. Thus again, it has to be said that the results in the present study is somewhat disappointing since more hours worked per week was hypothesized to be

connected to higher levels of burnout. That no connection what so ever was found between burnout and hours worked per week in the present study, is not in line with the majority of previous research. It would be interesting to conduct the present study again with the same countries but possibly with other nursing wards, and also with two other countries in order to see if such a connection could be found then. In any case, it is important to conduct more research in this area in order to see if the present study's results could be confirmed or disconfirmed. Also, when conducting future research in this area it has to be recommended that the working hours should be controlled for so that the distribution of working hours per week should be equal. Like this, more valid and reliable comparisons can be made between samples.

5.8. SUMMARY

To be able to get a good overview of the present study, a summary was decided to be written at the end of this chapter. The present study has contributed with both positive and negative findings in the area of burnout. Some of the findings could be supported by previous research in a certain the area and others not. Some of the topics in this study was shown to be somewhat groundbreaking and has not been studied as much as other areas included in the present study. With regards to **burnout** between the nations it was shown that the burnout of the Hungarian nurses was higher than for the Swedish nurses. This result was inline with the first hypothesis and explained by looking at the historical background of the two countries. Looking at **burnout and the work-related stress**, it was shown that the Hungarian nurses experienced more work stress in general than the Swedish nurses and thus the first part of the second hypothesis was not supported. Regarding the second part of the second hypothesis, it was partly supported since the assumed work stress factors for each sample could be significantly related to burnout, however the ones not assumed in the hypothesis could also be significantly related to burnout in each sample. Previous research has looked into this area to a high degree and many of the specific work related factors related to burnout in this study, have been looked into and connected to burnout by previous researchers as well. With regards to **burnout and life satisfaction**, this study showed that life satisfaction was higher in the Swedish sample than in the Hungarian sample and could thus confirm the first part of the third hypothesis. The second part of the third hypothesis could not be supported since it was shown that life satisfaction did not have any influence on burnout. Life satisfaction is and has been

extensively researched all around the world but life satisfaction in relation to burnout seems to be an area in need of much more research. However, the minimum previous research in this area has shown that the connection between life satisfaction and burnout has been both confirmed and disconfirmed. Thus the present study's result has been shown by previous research as well; however more research in this area is needed in order to reach a higher consensus. When it comes to **burnout and personality**, the personality factor in this study was measured by the psychological immunity factors. It was shown that the Swedish nurses attained higher scores on the majority of the 16 subscales and higher means for the three main factors, which supported the first part of the fourth hypothesis. The present study also showed that higher psychological immunity resulted in lower burnout for the Swedish nurses, with which the second part of the fourth hypothesis was supported. Previous research which has connected burnout to psychological immunity as the personality factor has not been found and thus the results of the present study could neither be confirmed nor disconfirmed by previous research. Thus, more research is needed in this area. However, the present study also highlighted other personality factors which have been positively and negatively connected to burnout. In the area of **burnout and social support** it was shown that no significant differences could be found for social support between the two nursing samples in this study. The fact that the Hungarian nurses were not married to a higher degree than the Swedish nurses made it impossible for the fifth hypothesis to be further investigated. Also age differences in the two samples were discussed as reasons for Hungarian nurses being single to a higher degree. However, the fact that social support turned out to be high for both the Swedish and the Hungarian nurses were in itself interesting results. Previous research has to a great extent shown that social support could be related to burnout and thus the finding of the present study was somewhat unexpected. Answering the question **which factors contributed to higher burnout** in this study; it was interesting to point out that the sixth hypothesis showed that higher psychological immunity and Swedish nationality were the best protective factors against burnout. The fact that psychological immunity has not been linked to burnout in previous research makes it even more exciting that this result was attained. This result makes it a strong argument for future researchers to conduct more research in this area. The last hypothesis looked at **burnout and the demographic variables** and here again the results of the present study were somewhat unexpected. The reason for this is that only two variables showed to have a significant effect on burnout in this study and they were **nationality** and **marital status**. Thus, the seventh hypothesis could not be supported completely since all of the demographic variables were expected to have an influence on burnout. Previous research

has to a great extent shown that demographic variables do have a significant effect on burnout. Thus, younger age, having no children, lower educational level, less years of working as a nurse, and more hours worked per week have been shown to have an influence on burnout in previous researches, but could not be shown to influence burnout in this study. A possible explanation for this can be that nationality and psychological immunity had such strong protective effects on Hungarian and Swedish nurses' burnout that it excluded other variables in this study.

6. CONCLUSION

6.1. IMPLICATIONS AND FUTURE DIRECTIONS

Having spent a great deal of time looking at burnout in nurses in different countries in general, and Swedish and Hungarian emergency nurses in particular, in connection to work related stress, life satisfaction, personality, social support, and demographic variables, it has been an interesting journey. At the end of this journey it is now time to reflect upon the implications of this study. The area of burnout in nurses is a well researched and well established area. It has an extensive scientific background all around the world and from that point of view it was a challenge to come up with an area within the burnout area which would still shed new light on the phenomenon of burnout in nurses, the fact that this study looked at emergency nurses in two different countries and in relation to five different areas made this study a very specific one and hopefully also an interesting one, which highlighted areas in a range from not being researched to extensively researched. This wide spectrum has hopefully made this study stand out and has also hopefully contributed with filling in some gaps in already existing research. Hopefully it has also contributed with new ideas worth while for future research to investigate further.

The fact that this study looked at burnout in Hungarian and Swedish emergency nurses, with two very different historical backgrounds, made it interesting to see whether this would turn out as something positive or negative. Since the countries have different historical backgrounds it was maybe no surprise that the levels of burnout came out the way they did. However, could the results have come out differently? Maybe one should not make the assumption that the results were obvious due to unfortunate historical background because

what if the Hungarian nurses would have scored higher on other variables which would have given them protection against burnout and thus would have scored lower on burnout because of those variables? These are merely assumptions of course and future research could look into this area to see if comparing western and eastern countries is valuable or not. Countries like for example Romania, Bulgaria, and Poland have also gone through difficult times in the past and studies comparing burnout between for example one of those countries and a western country would be interesting to see which results would be attained. Also research in comparing these Eastern European countries with each other would be valuable, in order to see which of the countries have the lowest burnout and has thus managed to increase their qualities of their health care systems. However, also since there has not been any previous study (as far as the knowledge of the author) comparing Hungary and Sweden with regards to burnout it would be interesting for future research to conduct a similar comparison between the two countries, in order to see which or if the present results could be replicated.

When looking at work related stress, it was maybe not a real necessity to divide the work related factors between the two different nations. This is an area which has been extensively researched by previous researchers and a possible idea would have been simply to look at which different work related factors were stressful in the two different countries. Since previous research seems to have handled this issue in this manner, it would have been a possibility for this study to model. The division of the work related factors between the two different countries was done looking at previous research but since research in Hungary is scarce in general on burnout, it was difficult to make the division suitably. Thus, future research should look at the methods used by previous researches and use similar techniques they have used, if they are valuable. To start experimenting with other techniques might simply end up as confusing and might interfere with the main idea of the study being pursued. Thus, another idea for future research is to make a comparison between Hungary and Sweden concerning burnout and work-related factors, but then to do this by simply listing which factors are causing stress for Hungarian nurses and Swedish nurses separately, and then see which or if any of the factors can be connected to burnout in the two countries.

An interesting topic in the field of burnout is the topic of life satisfaction. The fact that this study could not show a connection between burnout and life satisfaction was more disappointing than surprising. Previous research has shown mixed results in connection to burnout and life satisfaction, and thus the findings of this study are in line with previous

research. However, since life satisfaction is showing an overall satisfaction with life and since life satisfaction was shown to be lower in the Hungarian nurses and higher in the Swedish nurses, it would have been interesting to find some kind of influence on burnout. Not much research has been conducted in this area and it is clearly in need of more research. Since life satisfaction is a well-known topic in international literature and a highly respected research area connected to people's lives, it is surprising not more research has connected burnout and life satisfaction to each other. Future research could look into if higher life satisfaction would contribute to lower burnout, or if lower life satisfaction would contribute to higher burnout. To make it in connection to the topic of this study, comparisons could be made in relation to nurses working at other wards than just emergency wards. Maybe then different results would come out for different nursing wards and it would show that maybe nurses working at emergency wards would generally not attain a significant relationship between burnout and life satisfaction. However, it would possibly at least show potential trends between burnout and different nursing wards in connection to life satisfaction. It was interesting that in this study neither for the Hungarian nor for the Swedish nurses could there be found a relationship between burnout and life satisfaction. This means that nationality did not influence the relationship between burnout and life satisfaction. Thus, a possible idea for future research is to compare two or more different countries to see if similar or opposite results would come out, and if there nationality would have an impact on burnout and life satisfaction.

Looking at burnout and personality it can clearly be seen that it has been a well studied topic over the years of burnout research. An original idea of this study was to include psychological immunity as the personality structure. Previous research in the field of burnout and psychological immunity has not been able to be located, and thus this study has contributed with an area in need of much more research. When finding a topic which seems not to have received much attention it is very exciting but at the same time it is somewhat discouraging as well. It is exciting since the feeling of contributing with an original idea in an already extensively researched topic, gives a feeling of eagerness and a desire to find out more in connection to the topic but from as many different points of view as possible. The discouraging feeling comes from the fact that previous research can not be used as a support in order to either confirm or disconfirm a present study's findings and this makes the present study to feel more fragile. However, having shown that psychological immunity does have a connection to burnout makes it an opportunity for more extensive research to be conducted in this area in the future. Since previous research has found differences in psychological

immunity between different countries an idea is to follow the ideas of this study and to look at the connection between burnout and psychological immunity in two or more countries.

Burnout and social support has received a lot of attention in previous research and it was somewhat unfortunate that this study could not confirm such a connection in either sample. An interesting result in this study was however that both Hungarian and Swedish nurses experienced high levels of social support. It is somewhat surprising that the high perceived social support could not be connected to lower levels of burnout but it still gives a very good indication of one point of strength in both samples. Interestingly, this is also the only area where the Hungarian nurses attained just as high scores as the Swedish nurses. Thus, when looking at this area it would be interesting to see if other studies looking at social support would report Hungarian emergency (or other) nurses as experiencing high levels of social support. Also, burnout could be included as well to see if high social support could maybe show lower levels of burnout in Hungarian (emergency) nurses in a future study. Further, future research could also look at comparing different countries in relation to burnout and social support in order to see if previous findings of significant connections could be found for different nations.

One of the most interesting results in this study was that higher psychological immunity and Swedish nationality were the best protective factors against burnout. Thus, being Swedish and having higher psychological immunity was shown to work best against becoming burned out. It is interesting that nationality and especially psychological immunity were the two factors shown to be protective factors against burnout. Previous researches have found many of the demographical variables, social support or the work related factors to have a big influence on burnout and thus the findings of this study is pointing out variables which have not really been pinpointed before. Especially psychological immunity is an interesting variable to look at because of its novelty within the field of burnout. It would thus be very interesting to see if other researchers would be able to confirm this result and to find psychological immunity to have such an important protective effect on burnout. Since very scarce amount or maybe even no research has been conducted in this area, the options for research are immense. It would however be important to look at countries separately in connection to psychological immunity and burnout, as well as comparing countries between them (just like this study). Also, it would be important to include other nursing wards when looking at psychological immunity and possibly other health care professions as well. Why not to also include other professions

prone to burnout (like for example teachers) and to look at the situation with psychological immunity in those, in connection to burnout.

Demographic variables have been shown in previous research to have a significant effect on burnout. The fact that the present study only could show a significant effect between nationality and burnout, and marital status and burnout is somewhat surprising. There have been inconsistencies in the previous research; however a large amount of the previous research has found a connection between the demographic variables and burnout. Thus, this study stands out somewhat with its results since the majority of the demographic variables showed not to have an effect on burnout. The reasons lying behind these results is difficult to say but to its defense it can be mentioned that some studies have found similar results. An issue which must be raised here is the fact that there were unfortunately big differences between the two samples in connection to age. The fact that the Swedish nurses turned out to be older than the Hungarian nurses had possibly an effect on variables like number of children, marital status, and years working as a nurse. Since the Swedish nurses were older it was no surprise that they had more children, were married to a higher degree, or had worked for a longer time as a nurse. The comparisons between the two samples in these areas should thus be made with caution and they must be kept in mind when reading this study. The reasons for these differences can only be speculated about, but maybe in Sweden people who educate themselves to become nurses only start working as an actual nurse later in life. Maybe women in Sweden choose to start educating themselves to become a nurse much later in life than in Hungary. Maybe in Hungary the difficult situation of the nurses makes them leave their profession at a certain (older) age, leaving only younger nurses within the health care system and older nurses working outside their professions. However, some interesting results which were found were that Swedish nationality and being married attained the lowest burnout scores. Married nurses have been shown in previous research as well to score lower on burnout but it would be interesting to see if another comparison between Hungary and Sweden would show that Swedish nationality would come out as a strong protective factor against burnout.

As a summary it can be said that conducting research in the area of burnout is very interesting at the same time as it is a challenge. There has been extensive research conducted in this area and remains still today in focus for any researchers, where the majority of the research has looked at burnout in one country, at one specific ward, and with one specific group of health

care workers (usually nurses). In such a widely researched area it is somewhat of a challenge to find a new topic to highlight or to look at burnout from a different angle, however this does not mean that one should not try. The aim of this study was to look at burnout from a nation-based point of view since not much research has been done in connection to burnout comparing two different countries, especially Hungarian and Swedish nurses. Also, another aim was to show burnout in Hungarian and Swedish nurses in relation to a wide variety of variables, in order to be able to identify which is the most important variable(s) in connection to burnout. This approach is highly recommended in future research since it is still a challenge to identify which factors are causing or preventing burnout and when looking at several variables at the same time it is easier to allocate the most important variable(s). This study looked specifically at emergency ward nurses and in future research it is still highly recommended to conduct research among emergency ward nurses, since there is limited literature in connection to this. However, it is also recommended that future research makes comparisons between different wards, since the literature today is not in agreement whether some wards are more prone for burnout than others. Therefore, it looks like there are still a number of areas which can be made a focus in future research and this study hoped to have contributed to the gap in the literature in nation-based comparisons regarding nurses and burnout, in burnout related to emergency ward nurses, and by looking at five different areas (demographic variables, work-related factors, life satisfaction, personality, and social support), where some areas have been extensively connected to burnout (e.g., social support) and other areas have received much less attention (e.g., life satisfaction). Future research should make sure that the samples are equal in their distribution of for example age and thus can be compared to each other accurately in all areas included in the study. This study's results should not be generalized to all emergency nurses in Hungary or Sweden but shows nation-based differences merely in relation to the two different samples included in this study.

6.2. CAN WE PREVENT BURNOUT?

In such an important area as burnout which has such unpleasant effects on people's lives as this condition, it is important to try to give suggestions for prevention in light of ones findings. To be able to prevent burnout would be a true breakthrough for people suffering from it and for the researchers studying it. However, there is no "easy fix" for burnout since there are such a wide variety of factors inducing it. What might cause burnout for some people

might leave other people unaffected. This is the true challenge of burnout; to find a solution which would be universal or universal enough to work for a majority of people. Two important findings in this study which might serve as suggestions for prevention are social support and psychological immunity. Both of these variables came out with separate and interesting findings and they will be discussed in light of prevention of burnout.

This study found that both the Hungarian and Swedish nurses reported to receive high levels of social support. It was also found that social support could not be related to burnout in this study, however since the nurses reported high levels of social support it might give an indication of an area worth while focusing on. Researchers have shown the importance of social support in prevention of burnout (see for example Garrett & McDaniel, 2001; Maslach et al., 2001) and thus it may be an important area to look further into. Since both of the samples in this study reported high levels of social support, further studies could focus on how to attain high social support. Looking at groups which already report to have high social support, can assist in revealing the reasons behind it and researchers can look into how to help nurses (and other professions) in attaining it, for example which factors are more precisely promoting social support. If these factors could be identified then the next step would be to introduce these variables for people and in places where social support has been shown to be low and where burnout has been shown to be high. Then steps could be taken to promote social support among people and in workplaces in order to promote lower levels of burnout or to even prevent burnout. As it has been mentioned before, preventing burnout is truly a challenge and what might work in one work setting, might not work in another. The most interesting area to be able to look into in relation to burnout prevention is psychological immunity. This research found that psychological immunity was one of the most important protective factors against burnout. If this would show to be the case in more studies, it would be an important area to suggest for burnout prevention. Research could investigate the levels of psychological immunity in health care workers together with the levels of burnout. If it would turn out that the levels of psychological immunity are low and that the levels of burnout are high in some hospitals or wards, interventions targeting at strengthening nurses psychological immunity could be implemented. This of course sounds easier than it would probably be in real life. How can we strengthen psychological immunity? How can we strengthen psychological immunity in nurses? The techniques to attain stronger psychological immunity in nurses (if shown to be low) could be a challenge for future research. However, just as Garrosa et al. (2006) have mentioned, that interventions to decrease burnout might be

more efficient if they would be directed at increasing nurses personality instead of for example only concentrating at diminishing work-related factors. Thus, in light of this suggestion, increasing nurses psychological immunity as a type of prevention might be investigated in future research. Another idea would be to introduce more than one variable for prevention. Maybe social support together with strengthening the psychological immunity would give results in hospitals as prevention intervention. The only way to find out is through research and hopefully this study has given two ideas for prevention where one has already been suggested (social support) and one which seems to be new in relation to all aspects of burnout not just prevention (psychological immunity).

6.3. LIMITATIONS

Due to the small sample size (N=187) in this study the findings cannot be generalized to the Hungarian and Swedish emergency nursing population in general and neither on the general Hungarian or Swedish population.

When looking at the comparisons between the Hungarian and Swedish emergency nurses, it is important to keep in mind the age differences between the two samples. It turned out that the Swedish nurses were in general older than the Hungarian nurses and thus this might be the reason why the majority of the Swedish nurses were married, had higher education, and more children than the Hungarian nurses. However, it must also be kept in mind that the questionnaires were distributed on equal terms in both countries and the differences might be a trend in the Swedish and Hungarian health care system. It could possibly be that Swedish nurses in general are older than Hungarian nurses. Also, in the samples there were differences between hours worked per week where the Swedish nurses worked less than 40 hours per week to a higher degree than the Hungarian nurses. Also, the Hungarian nurses worked more than 40 hours per week to a higher degree than the Swedish nurses. Again it has to be emphasized that questionnaires were distributed on equal terms in both countries and the differences for the inequalities in hours worked per week could also be a cultural difference. It is maybe possible that the hospitals in Sweden are structured differently than in Hungary and that the nurses are working generally less than 40 hours.

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APPENDIX A

To whom it may concern,

My name is Anita Gombor and I am about to finish my PhD studies in Health Psychology, at the University of Eötvös Lorand in Budapest, Hungary. As part of my PhD studies, I am conducting a research for my dissertation about burnout among nurses in Hungary and Sweden. For this research, I am interested in burnout among nurses working at emergency wards and the nurses would have to fill out a questionnaire. The questionnaire contains six main topics related to: demographical background information, work-related conditions at the hospital, life satisfaction, personality, social support, and burnout. I use these questionnaires in order to attain a broad understanding of burnout and as such be able to look at which factors could either influence burnout in a negative or positive way. My overall aim with the study is to identify the main factor(s) contributing to burnout in my sample and in relation to that come up with suggestions for burnout prevention. You have about one month to fill out the questionnaires.

The questionnaires are completely anonymous and confidential, and you do not have to fill out any kind of information which might reveal your identity. Also, I will be the only person evaluating the questionnaires and the questionnaires will only be used for the purpose of my PhD study about burnout.

I sincerely hope you would like to help me by filling out the questionnaires and as such contribute with important information about burnout. If you have any questions about this study you can contact me directly. You can also contact the head nurse or doctor in charge at your ward, who have been informed about this study and who have given me their consent. Please find my contact details below. Good luck with the questionnaires!

Thank you very much in advance!

Yours truly,

Anita Gombor

Tel. 0526 - 143 26

Mobil: 0708 – 21 17 82 / 06 – 70 378 72 90

E-mail: anita_gombor@hotmail.com

a. Age.....years old

b. What is your marital status?

Single ☐ Married ☐ Partner ☐ Divorced ☐ Widowed ☐ Other ☐

c. How many children do you have?

0-1 ☐ 2-3 ☐ 4-5 ☐ More than 5 ☐

d. What is the highest level of your education?

High School ☐ Bachelor Degree ☐ Master Degree ☐ PhD ☐

e. How many years have you worked as a nurse?

1-5 years ☐ 6-10 years ☐ 11-15 years ☐ 16-20 years ☐

More than 20 years ☐

f. How many years have you been working at you current workplace?years

g. How many hours do you work on average per week?

Below 40 hours ☐ 40 hours ☐ Above 40 hours ☐

1) Below you will find characteristics of your workplace. Please, estimate according to your HOSPITAL WORK the degree of stressfulness for you:

1 – not at all stressful, 2 - slightly stressful, 3 - moderately stressful, 4 – pretty stressful,
5 – very stressful

	<i>How stressful is it for You?</i>				
1. You feel helpless towards a terminally ill patient.	1	2	3	4	5
2. The family of an ill patient is asking for something, which considering the patient's situation is unreasonable.	1	2	3	4	5
3. Fear of that you will make a mistake when treating a patient.	1	2	3	4	5
4. You don't feel prepared to support a patient emotionally.	1	2	3	4	5
5. The doctors are criticising your work.	1	2	3	4	5
6. There is not enough time to discuss your feelings related to the patients with your colleagues.	1	2	3	4	5
7. Something went wrong and they blame you.	1	2	3	4	5
8. You feel unqualified in connection to some tasks.	1	2	3	4	5
9. There isn't enough time to complete all your nursing tasks.	1	2	3	4	5
10. The doctor isn't giving enough information about the patient's condition.	1	2	3	4	5
11. You have to make a decision about a patient, when the doctor is absent.	1	2	3	4	5
12. You are taking responsibility without appropriate experience.	1	2	3	4	5
13. There are too many non-nursing – for example administrative – tasks.	1	2	3	4	5
14. Not enough nurses on the ward.	1	2	3	4	5
15. There isn't enough time to deal with the patient's family.	1	2	3	4	5
16. Those occasions are rare, when you can talk about the circumstances of dying for a patient or the death of a patient with your own family.	1	2	3	4	5
17. The doctor isn't present when the patient dies.	1	2	3	4	5
18. The family of a patient is treating you in a crossly way.	1	2	3	4	5

19. You have to make decisions under pressure.	1	2	3	4	5
20. The doctor isn't giving enough information about the things to do.	1	2	3	4	5
21. You are taking responsibility for things you don't have control over.	1	2	3	4	5
22. You feel, to do a work like this, you would need more days off than you get now.	1	2	3	4	5
23. There's not always enough medication.	1	2	3	4	5
24. Those opportunities are few, when you could talk about the patients with their family.	1	2	3	4	5
25. Treating a dying patient about whom you know nothing.	1	2	3	4	5
26. Taking care of a dying patient who's as old as your child, or reminds you of a relative or a friend.	1	2	3	4	5
27. Working over time.	1	2	3	4	5
28. It's difficult to combine work and personal life.	1	2	3	4	5
29. It's difficult to keep the appropriate distance to the patients.	1	2	3	4	5
30. Lack of teamwork.	1	2	3	4	5
31. There are many unexpected situations.	1	2	3	4	5
32. No feedback about work performance.	1	2	3	4	5
33. Lack of appropriate equipment.	1	2	3	4	5
34. Work related conflicts with colleagues.	1	2	3	4	5
35. Unfavourable physical conditions at the ward.	1	2	3	4	5
36. Personal conflicts with colleagues.	1	2	3	4	5

2) Below are five statements with which you may **agree** or **disagree**. Using the 1-7 scale below, indicate your agreement with each item by filling out the appropriate number in each line preceding that item. Please be open and honest in your responding.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

1. In most ways my life is close to my ideal.	1	2	3	4	5	6	7
2. The conditions of my life are excellent.	1	2	3	4	5	6	7
3. I am satisfied with life.	1	2	3	4	5	6	7
4. So far I have gotten the important things I want in life.	1	2	3	4	5	6	7
5. If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7

3) Below are a number of statements about how you evaluate yourself and the world surrounding you. Please select one number on the 4-point scale following every statement that fits you. Think about how you normally see yourself. There are no right or wrong answers.

1	2	3	4
Completely does not describe me	Does not describe me	Somewhat describes me	Completely describes me

1. People describe me as a very optimistic person.	1	2	3	4
2. According to my experience, success is a result of good planning.	1	2	3	4
3. When I look to my past and to my future, I view my life as understandable.	1	2	3	4
4. I am very happy with myself and what I have accomplished in life.	1	2	3	4
5. I think that I have become less effective.	1	2	3	4

6.I do not particularly like different and new situations.	1	2	3	4
7.I am very good at "reading" other people's thoughts and motives.	1	2	3	4
8.I am more creative than most people.	1	2	3	4
9.I often know what should be done but usually lack the ability to do it.	1	2	3	4
10.I can usually find someone that can help me to solve my problems when I need to.	1	2	3	4
11.I see myself as a driving force together with others and as one that can develop and influence whatever happens to me.	1	2	3	4
12.It often happens that I am physically present but my thoughts are someplace else.	1	2	3	4
13.Even if a job is difficult and I bump into a problem, I often work further until it is finished.	1	2	3	4
14.I am the type of person that says the first thing that comes to my mind.	1	2	3	4
15.I often feel nervous.	1	2	3	4
16.I lose my temper if someone interrupts me when I am concentrating on something important.	1	2	3	4
17. I am convinced, that most of the things that happen around me are positive in the long run.	1	2	3	4
18. I am convinced that everything that happens to me depends on myself rather than fate or unlucky circumstances.	1	2	3	4
19.I think that many things that happen to me are confusing and not understandable.	1	2	3	4
20.I have strong self esteem and have values that are worth fighting for.	1	2	3	4
21.I think that I succeed more and more in different areas of my life.	1	2	3	4
22.I am open to changes in my life and I believe they give me new and interesting possibilities.	1	2	3	4
23.I see myself as a person that is very good at judging others.	1	2	3	4
24.Even when I am under pressure, I am very good at working out alternative solutions to problems.	1	2	3	4
25.The feeling that I have accomplished what I want in life is my biggest asset regarding different problems that come along.	1	2	3	4
26.When I have been in situations where I have a problem to solve, I have found the right people to help me.	1	2	3	4
27. I often have ideas that are taken further by others.	1	2	3	4
28. I find myself in my own world and away from what happening around me.	1	2	3	4
29. When I have started something, I finish it.	1	2	3	4
30. It often happens that my feelings take over instead of my sensibility.	1	2	3	4
31. I am easily upset when I make a mistake.	1	2	3	4
32. I easily become impatient.	1	2	3	4
33. Even when I find myself in a difficult situation, I am totally convinced everything will turn out in the end.	1	2	3	4
34. I never trust fate or luck to solve my problems.	1	2	3	4
35. When I look at my life, I see it as meaningful and coherent.	1	2	3	4
36. It does not matter what others think of me, I know my abilities.	1	2	3	4
37. During the last year, my personality has not changed at all.	1	2	3	4
38. I consider the unexpected changes in my life as exciting challenges and hold possibilities for development	1	2	3	4
39. I often know, how people think and feel.	1	2	3	4
40. Others describe me as a problem solver.	1	2	3	4
41. I am good at meeting the goals that I set for myself.	1	2	3	4
42. If I need help, I do not mind asking for it from others even if I do not know them well.	1	2	3	4
43.I am good at getting people in my surroundings to come up with new and creative ideas.	1	2	3	4
44. Lately, I have felt out of step with what is going around me.	1	2	3	4

45. If things do not go as planned, I quickly give up.	1	2	3	4
46. I often do things that I regret afterwards.	1	2	3	4
47. Even small problems usually worry me.	1	2	3	4
48. I am seldom irritated.	1	2	3	4
49. Thoughts about my future give me good feelings.	1	2	3	4
50. I influence what will happen to me.	1	2	3	4
51. I seldom experience anything meaningful in everyday life.	1	2	3	4
52. I see myself as a strongly resourceful person.	1	2	3	4
53. There have been many situations in which I have doubted my possibilities to grow as a person.	1	2	3	4
54. I usually search for new challenges.	1	2	3	4
55. I often know what people will say before they say it.	1	2	3	4
56. I am good at jobs that need new and original ideas.	1	2	3	4
57. From earlier experience, I am confident with most of things I do.	1	2	3	4
58. Of my acquaintances, there are many that I can totally rely on.	1	2	3	4
59. In group situations, people often say that they are stimulated by my ideas.	1	2	3	4
60. It often feels like the world is just passing my by.	1	2	3	4
61. If things do not go as planned, I easily lose my motivation to continue working with them.	1	2	3	4
62. I speak first and think second.	1	2	3	4
63. I am sensitive to criticism.	1	2	3	4
64. When I have decided on something and it does not go as I have wished, I am irritated.	1	2	3	4
65. I am a person that has a very positive view toward life.	1	2	3	4
66. Most of the important things that happen to me, I can anticipate and control.	1	2	3	4
67. I lack distinctive goals.	1	2	3	4
68. I am proud of myself when I think of the type of person I have become.	1	2	3	4
69. Other people seem to change but I feel like I am walking in circles.	1	2	3	4
70. Even in unexpected situations, I see them as exciting challenges.	1	2	3	4
71. I can often discover the roles people have in a group, even if they are hidden from the people themselves.	1	2	3	4
72. I have an unusually good ability to find alternative solutions when I am confronted with problems.	1	2	3	4
73. If I see a solution to a problem, I am sure that I can do what needs to be done.	1	2	3	4
74. I would not hesitate to call upon different people if I needed advice on a personal problem.	1	2	3	4
75. In a group, my ideas are often significant.	1	2	3	4
76. Thoughts about the past and future often bother me.	1	2	3	4
77. I have often started a new project before I have finished an earlier one.	1	2	3	4
78. I wish that I were not so impulsive.	1	2	3	4
79. I am easily depressed when I encounter unpleasant things.	1	2	3	4
80. It takes a lot for me to lose my temper.	1	2	3	4

4) I am interested in how you feel about the following statements. Read each statement carefully and indicate how you feel about each statement, by circling a number.

1 Very Strongly Disagree	2 Strongly Disagree	3 Mildly Disagree	4 Neutral	5 Mildly Agree	6 Strongly Agree	7 Very Strongly Agree
-----------------------------------	---------------------------	-------------------------	--------------	----------------------	------------------------	--------------------------------

1. There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2. There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
3. My family really tries to help me.	1	2	3	4	5	6	7
4. I get the emotional help and support I need from my family.	1	2	3	4	5	6	7
5. I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6. My friends really try to help me.	1	2	3	4	5	6	7
7. I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8. I can talk about my problems with my family.	1	2	3	4	5	6	7
9. I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
10. There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11. My family is willing to help me make decisions.	1	2	3	4	5	6	7
12. I can talk about my problems with my friends.	1	2	3	4	5	6	7

5) The purpose of this survey is to discover how various persons in the human services or helping professions view their jobs and the people with whom they work closely. Because persons in a wide variety of occupations will answer this survey, it uses the term *recipients* to refer to the people for whom you provide your services, care treatment, or instruction. When answering this survey please think of these people as recipients of the service you provide, even though you may use another term in your work.

Below there are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way *about your job*. If you have *never* had this feeling, write a "0" (zero) before the statement. If you have had this feeling, indicate *how often* you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way.

HOW OFTEN	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW OFTEN

0-6

Statements:

- _____ I feel emotionally drained from my work.
- _____ I feel used up at the end of the workday.
- _____ I feel fatigued when I get up in the morning and have to face another day on the job.
- _____ I can easily understand how my recipients feel about things.
- _____ I feel I treat some recipients as if they were impersonal objects.
- _____ Working with people all day is really a strain for me.
- _____ I deal very effectively with the problems of my recipients.

8. _____ I feel burned out from my work.
9. _____ I feel I'm positively influencing other people's lives through my work
10. _____ I've become more callous (uncaring) toward people since I took this job.
11. _____ I worry that this job is hardening me emotionally.
12. _____ I feel very energetic.
13. _____ I feel frustrated by my job.
14. _____ I feel I'm working too hard on my job.
15. _____ I don't really care what happens to some recipients.
16. _____ Working with people directly puts too much stress on me.
17. _____ I can easily create a relaxed atmosphere with my recipients.
18. _____ I feel excited after working closely with my recipients.
19. _____ I have accomplished many worthwhile things in this job.
20. _____ I feel like I'm at the end of my rope.
21. _____ In my work, I deal with emotional problems very calmly.
22. _____ I feel recipients blame me for some of their problems.

This questionnaire is treated anonymously and confidentially!
THANK YOU VERY MUCH FOR YOUR PARTICIPATION!

APPENDIX C

ORIGINAL SPSS OUTPUTS

Section 1: Reliability Analysis for the Work Stress scale

```
RELIABILITY  
/VARIABLES=ws1 ws17 ws25 ws26  
/FORMAT=NOLABELS  
/SCALE (ALPHA) =ALL/MODEL=ALPHA.
```

**Reliability
Scale: ALPHA
Case Processing Summary**

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,654	4

```
RELIABILITY  
/VARIABLES=ws5 ws7 ws10 ws20 ws32  
/FORMAT=NOLABELS  
/SCALE (ALPHA) =ALL/MODEL=ALPHA.
```

**Reliability
Scale: ALPHA
Case Processing Summary**

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,817	5

```
RELIABILITY  
/VARIABLES=ws6 ws30 ws34 ws36  
/FORMAT=NOLABELS  
/SCALE (ALPHA) =ALL/MODEL=ALPHA.
```

**Reliability
Scale: ALPHA**

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,685	4

```
RELIABILITY
/VARIABLES=ws3 ws4 ws11 ws29
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,626	4

```
RELIABILITY
/VARIABLES=ws16 ws24
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,666	2

```
RELIABILITY
/VARIABLES=ws2 ws15 ws18
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```


Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,682	3

```
RELIABILITY
/VARIABLES=ws8 ws12 ws21
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,667	3

```
RELIABILITY
/VARIABLES=ws14 ws19 ws22 ws27 ws28 ws35
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,623	6

```

RELIABILITY
/VARIABLES=ws9 ws13 ws23 ws31 ws33
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,746	5

Section 2: Reliability Analysis for the Life Satisfaction scale

```

RELIABILITY
/VARIABLES=ls1 ls2 ls3 ls4 ls5
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,909	5

Section 3: Reliability Analysis for the Psychological Immune System scale

```

RELIABILITY
/VARIABLES=pici1 pici17 pici33 pici49 pici65
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,727	5

```

RELIABILITY
/VARIABLES=pici2 pici18 pici34 pici50 pici66
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability**Scale: ALPHA****Case Processing Summary**

		N	%
Cases	Valid	185	98,9
	Excluded(a)	2	1,1
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,308	5

```

RELIABILITY
/VARIABLES=pici3 pici19r pici35 pici51r pici67r
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability**Scale: ALPHA****Case Processing Summary**

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,630	5

```

RELIABILITY
/VARIABLES=pici4 pici20 pici36 pici52 pici68
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,798	5

```

RELIABILITY
/VARIABLES=pici5r pici21 pici37r pici53r pici69r
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,574	5

```

RELIABILITY
/VARIABLES=pici6r pici22 pici38 pici54 pici70
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,746	5

```

RELIABILITY
/VARIABLES=pici7 pici23 pici39 pici55 pici71
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,780	5

```

RELIABILITY
/VARIABLES=pici8 pici24 pici40 pici56 pici72
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,796	5

```

RELIABILITY
/VARIABLES=pici9r pici25 pici4l pici57 pici73
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,680	5

RELIABILITY
/VARIABLES=pici10 pici26 pici42 pici58 pici74
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

Reliability Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,665	5

RELIABILITY
/VARIABLES=pici11 pici27 pici43 pici59 pici75
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

Reliability Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Cronbach's Alpha	N of Items
,750	5

RELIABILITY
/VARIABLES=pici12r pici28r pici44r pici60r pici76r
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

Reliability Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	185	98,9
	Excluded(a)	2	1,1
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,617	5

```
RELIABILITY  
/VARIABLES=pici13 pici29 pici45r pici61r pici77r  
/FORMAT=NOLABELS  
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability Scale: ALPHA Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,594	5

```
RELIABILITY  
/VARIABLES=pici14r pici30 pici46r pici62r pici78r  
/FORMAT=NOLABELS  
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability Scale: ALPHA Case Processing Summary

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,576	5

```
RELIABILITY  
/VARIABLES=pici15r pici31r pici47r pici63r pici79r  
/FORMAT=NOLABELS  
/SCALE (ALPHA)=ALL/MODEL=ALPHA.
```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,731	5

```

RELIABILITY
/VARIABLES=pici16r pici32r pici48 pici64r pici80
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,639	5

Section 4: Reliability analysis for the Social Support scale

```

RELIABILITY
/VARIABLES=ss3 ss4 ss8 ss11
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

Reliability
Scale: ALPHA
Case Processing Summary

		N	%
Cases	Valid	186	99,5
	Excluded(a)	1	,5
	Total	187	100,0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,941	4

```

RELIABILITY
/VARIABLES=ss6 ss7 ss9 ss12
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

**Reliability
Scale: ALPHA**
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,896	4

```

RELIABILITY
/VARIABLES=ss1 ss2 ss5 ss10
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

**Reliability
Scale: ALPHA**
Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,938	4

Section 5: Reliability analysis for the Maslach Burnout Inventory

```

RELIABILITY
/VARIABLES=mbi1 mbi2 mbi3 mbi6 mbi8 mbi13 mbi14 mbi16 mbi20
/FORMAT=NOLABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA.

```

**Reliability
Scale: ALPHA**

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,885	9

```
RELIABILITY
/VARIABLES=mbi5 mbi10 mbi11 mbi15 mbi22
/FORMAT=NOLABELS
/SCALE(ALPHA)=ALL/MODEL=ALPHA.
```

Reliability

Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,652	5

```
RELIABILITY
/VARIABLES=mbi4 mbi7 mbi9 mbi12 mbi17 mbi18 mbi19 mbi21
/FORMAT=NOLABELS
/SCALE(ALPHA)=ALL/MODEL=ALPHA.
```

Reliability

Scale: ALPHA

Case Processing Summary

		N	%
Cases	Valid	187	100,0
	Excluded(a)	0	,0
	Total	187	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,681	8

Section 6: Correlations of the test's subscales

Table 1: Correlation matrix for the social support subscales

	[1]	[2]	[3]
Family subscale [1]	1		
Friends subscale [2]	.528(**)	1	
Significant other subscale [3]	.770(**)	.514(**)	1
Social support questionnaire [4]	.898(**)	.779(**)	.897(**)

Table 2: Correlation matrix for the burnout subscales

	[1]	[2]
Emotional exhaustion [1]	1	
Depersonalization [2]	.643(**)	1
Personal accomplishment [3]	-.353(**)	-.158(*)

Table 3: Correlation matrix for the work stress subscales

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Death, dying [1]	1								
Conflicts with the doctors [2]	.683(**)	1							
Problems with the colleagues [3]	.533(**)	.673(**)	1						
Relationship with the patients [4]	.541(**)	.580(**)	.539(**)	1					
Work and private life [5]	.508(**)	.428(**)	.420(**)	.446(**)	1				
Relationship with the patient's relatives [6]	.694(**)	.672(**)	.594(**)	.512(**)	.516(**)	1			
Being unprepared and feeling inexperienced [7]	.569(**)	.716(**)	.697(**)	.604(**)	.443(**)	.601(**)	1		
Workload [8]	.589(**)	.597(**)	.577(**)	.479(**)	.514(**)	.679(**)	.568(**)	1	
Stress related to tasks [9]	.675(**)	.724(**)	.652(**)	.530(**)	.462(**)	.785(**)	.603(**)	.654(**)	1
Work stress sum [10]	.805(**)	.860(**)	.791(**)	.712(**)	.622(**)	.842(**)	.799(**)	.826(**)	.861(**)

Table 4: Correlation matrix for the PICI subscales

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Positive thinking [1]	1														
Sense of Control [2]	.358(**)	1													
Sense of Coherence [3]	.559(**)	.228(**)	1												
Creative Self-Concept [4]	.660(**)	.433(**)	.545(**)	1											
Sense of Self-Growth [5]	.481(**)	.158(*)	.686(**)	.496(**)	1										
Change and Challenge Orientation [6]	.522(**)	.245(**)	.359(**)	.497(**)	.368(**)	1									
Social Monitoring Capacity [7]	.367(**)	.294(**)	.220(**)	.586(**)	.156(*)	.340(**)	1								
Problem Solving Capacity [8]	.334(**)	.461(**)	.208(**)	.542(**)	.213(**)	.394(**)	.445(**)	1							
Self-Efficacy [9]	.504(**)	.432(**)	.406(**)	.654(**)	.370(**)	.499(**)	.438(**)	.570(**)	1						
Social Mobilizing Capacity [10]	.420(**)	.212(**)	.308(**)	.549(**)	.198(**)	.334(**)	.344(**)	.253(**)	.350(**)	1					
Social Creation Capacity [11]	.369(**)	.384(**)	.290(**)	.542(**)	.254(**)	.513(**)	.428(**)	.698(**)	.534(**)	.393(**)	1				
Synchronicity [12]	.398(**)	0.136	.587(**)	.290(**)	.660(**)	.309(**)	-0.004	0.12	.346(**)	0.106	0.131	1			
Goal Orientation [13]	.345(**)	.207(**)	.485(**)	.340(**)	.443(**)	.285(**)	.229(**)	.178(*)	.405(**)	.218(**)	.230(**)	.479(**)	1		
Impulse Control [14]	.283(**)	.248(**)	.404(**)	.233(**)	.391(**)	0.098	0.116	0.031	.234(**)	0.017	0.07	.411(**)	.437(**)	1	
Emotional Control [15]	.479(**)	0.11	.444(**)	.290(**)	.474(**)	.308(**)	0.117	.240(**)	.225(**)	.192(**)	.231(**)	.483(**)	.398(**)	.361(**)	1
Irritability Control [16]	.511(**)	.208(**)	.438(**)	.336(**)	.424(**)	.318(**)	.149(*)	.251(**)	.260(**)	.201(**)	.258(**)	.453(**)	.353(**)	.426(**)	.628(**)

Section 7: Burnout and Nationality

```

ONEWAY
  ee dp pa BY country
  /STATISTICS DESCRIPTIVES HOMOGENEITY WELCH
  /MISSING ANALYSIS .

```

Table 5: Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
Emotional exhaustion_mbi	Hungarian	97	22,3505	10,95829	1,11265	20,1419	24,5591	2,00	52,00
	Swedish	90	12,4333	7,63794	,80511	10,8336	14,0331	,00	34,00
	Total	187	17,5775	10,70414	,78276	16,0333	19,1218	,00	52,00
Depersonalization_mbi	Hungarian	97	6,5876	5,36336	,54457	5,5067	7,6686	,00	26,00
	Swedish	90	3,6111	3,42724	,36126	2,8933	4,3289	,00	15,00
	Total	187	5,1551	4,76349	,34834	4,4679	5,8423	,00	26,00
Personal accomplishment_mbi	Hungarian	97	32,1340	6,71539	,68184	30,7806	33,4875	11,00	43,00
	Swedish	90	38,1556	7,08521	,74685	36,6716	39,6395	18,00	48,00
	Total	187	35,0321	7,50978	,54917	33,9487	36,1155	11,00	48,00

Table 6: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Emotional exhaustion_mbi	7,180	1	185	,008
Depersonalization_mbi	10,917	1	185	,001
Personal accomplishment_mbi	,742	1	185	,390

Table 7: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Emotional exhaustion_mbi	Between Groups	4591,443	1	4591,443	50,802	,000
	Within Groups	16720,182	185	90,379		
	Total	21311,626	186			
Depersonalization_mbi	Between Groups	413,609	1	413,609	20,100	,000
	Within Groups	3806,894	185	20,578		
	Total	4220,503	186			
Personal accomplishment_mbi	Between Groups	1692,728	1	1692,728	35,598	,000
	Within Groups	8797,080	185	47,552		
	Total	10489,807	186			

Table 8: Robust Tests of Equality of Means

		Statistic(a)	df1	df2	Sig.
Emotional exhaustion_mbi	Welch	52,143	1	171,989	,000
Depersonalization_mbi	Welch	20,746	1	164,686	,000
Personal accomplishment_mbi	Welch	35,454	1	181,984	,000

a. Asymptotically F distributed.

Section 8: Work Stress and Nationality

ONEWAY

ws BY country

/STATISTICS HOMOGENEITY WELCH

/MISSING ANALYSIS .

Table 9: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Death, dying	,164	1	185	,686
Conflicts with doctors	3,615	1	185	,059
Problems with colleagues	,139	1	185	,710
Relationship with patients	6,844	1	184	,010
Relationship with the patient's relatives	,712	1	185	,400
Being unprepared and feeling inexperienced	2,328	1	185	,129
Workload	,437	1	185	,509
Stress related to tasks	4,910	1	185	,028
Work stress sum	,013	1	184	,910

Table 10: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Death, dying	Between Groups	589,918	1	589,918	58,072	,000
	Within Groups	1879,312	185	10,158		
	Total	2469,230	186			
Conflicts with doctors	Between Groups	836,321	1	836,321	39,666	,000
	Within Groups	3900,545	185	21,084		
	Total	4736,866	186			
Problems with colleagues	Between Groups	241,944	1	241,944	20,850	,000
	Within Groups	2146,794	185	11,604		
	Total	2388,738	186			
Relationship with patients	Between Groups	20,734	1	20,734	1,971	,162
	Within Groups	1935,761	184	10,520		
	Total	1956,495	185			
Work and private life	Between Groups	1,406	1	1,406	,319	,573
	Within Groups	816,273	185	4,412		
	Total	817,679	186			
Relationship with the patient's relatives	Between Groups	258,280	1	258,280	38,244	,000
	Within Groups	1249,399	185	6,754		
	Total	1507,679	186			
Being unprepared and feeling inexperienced	Between Groups	191,538	1	191,538	22,375	,000
	Within Groups	1583,649	185	8,560		
	Total	1775,187	186			
Workload	Between Groups	888,629	1	888,629	23,170	,000
	Within Groups	7095,146	185	38,352		
	Total	7983,775	186			
Stress related to tasks	Between Groups	1287,893	1	1287,893	92,034	,000
	Within Groups	2588,824	185	13,994		
	Total	3876,717	186			
Work stress sum	Between Groups	27662,366	1	27662,366	43,519	,000
	Within Groups	116957,918	184	635,641		
	Total	144620,285	185			

Table 11: Robust Tests of Equality of Means

		Statistic(a)	df1	df2	Sig.
Death, dying	Welch	58,399	1	185,000	,000
Conflicts with doctors	Welch	40,218	1	182,815	,000
Problems with colleagues	Welch	20,955	1	184,987	,000
Relationship with patients	Welch	2,006	1	181,366	,158
Work and private life	Welch	,320	1	184,954	,572
Relationship with the patient's relatives	Welch	38,500	1	184,966	,000
Being unprepared and feeling inexperienced	Welch	22,666	1	183,263	,000
Workload	Welch	22,517	1	153,862	,000
Stress related to tasks	Welch	93,374	1	182,460	,000
Work stress sum	Welch	43,417	1	181,650	,000

a. Asymptotically F distributed.

Section 9: Correlations for Burnout and Work Stress

CORRELATIONS

/VARIABLES=ws ee dp pa

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE .

Table 12: Correlations

		Work stress sum	Emotional exhaustion_mbi	Depersonalization_mbi	Personal accomplishment_mbi
Work stress sum	Pearson Correlation	1	,514(**)	,298(**)	-,170(*)
	Sig. (2-tailed)		,000	,000	,020
	N	186	186	186	186
Emotional exhaustion_mbi	Pearson Correlation	,514(**)	1	,643(**)	-,353(**)
	Sig. (2-tailed)	,000		,000	,000
	N	186	187	187	187
Depersonalization_mbi	Pearson Correlation	,298(**)	,643(**)	1	-,158(*)
	Sig. (2-tailed)	,000	,000		,030
	N	186	187	187	187
Personal accomplishment_mbi	Pearson Correlation	-,170(*)	-,353(**)	-,158(*)	1
	Sig. (2-tailed)	,020	,000	,030	
	N	186	187	187	187

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

CORRELATIONS

/VARIABLES=ws ee dp pa

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE .

Table 13: Correlations

		Death, dying	Conflic ts with doctor s	Problem s with colleagu es	Relations hip with patients	Work and private life	Relations hip with the patient's relatives	Being unprepa red and feeling inexperie nced	Worklo ad	Stress related to tasks	Emotion al exhausti on_mbi	Deper sonaliz ation_ mbi	Perso nal accom plishm ent_m bi
Death, dying	Pears on Correl ation Sig. (2- tailed) N	1	,683(**)	,533(**)	,541(**)	,508(**)	,694(**)	,569(**)	,589(**)	,675(**)	,429(**)	,197(**)	-,086
			,000	,000	,000	,000	,000	,000	,000	,000	,000	,007	,240
	187	187	187	186	187	187	187	187	187	187	187	187	187
Conflic ts with doctor s	Pears on Correl ation Sig. (2- tailed) N		,683(**)	1,673(**)	,580(**)	,428(**)	,672(**)	,716(**)	,597(**)	,724(**)	,497(**)	,297(**)	-,168(**)
			,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,022
	187	187	187	186	187	187	187	187	187	187	187	187	187
Proble ms with colleagu es	Pears on Correl ation Sig. (2- tailed) N		,533(**)	1,673(**)	,539(**)	,420(**)	,594(**)	,697(**)	,577(**)	,652(**)	,398(**)	,216(**)	-,116
			,000	,000	,000	,000	,000	,000	,000	,000	,000	,003	,113
	187	187	187	186	187	187	187	187	187	187	187	187	187
Relatio nship with patient s	Pears on Correl ation Sig. (2- tailed) N		,541(**)	1,580(**)	,539(**)	1,446(**)	,512(**)	,604(**)	,479(**)	,530(**)	,406(**)	,245(**)	-,002
			,000	,000	,000	,000	,000	,000	,000	,000	,000	,001	,974
	186	186	186	186	186	186	186	186	186	186	186	186	186
Work and private life	Pears on Correl ation Sig. (2- tailed) N		,508(**)	1,428(**)	,420(**)	1,446(**)	,516(**)	,443(**)	,514(**)	,462(**)	,154(**)	,112	,099
			,000	,000	,000	,000	,000	,000	,000	,000	,035	,126	,177
	187	187	187	186	187	187	187	187	187	187	187	187	187
Relatio nship with the patient 's relativ es	Pears on Correl ation Sig. (2- tailed) N		,694(**)	1,672(**)	,594(**)	,512(**)	1,516(**)	,601(**)	,679(**)	,785(**)	,419(**)	,211(**)	-,109
			,000	,000	,000	,000	,000	,000	,000	,000	,000	,004	,137
	187	187	187	186	187	187	187	187	187	187	187	187	187
Being unpre pared and feeling inexpe	Pears on Correl ation		,569(**)	1,716(**)	,697(**)	1,604(**)	,443(**)	1,601(**)	1,568(**)	,603(**)	,433(**)	,275(**)	-,149(**)

Experience	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,042
	N	187	187	187	186	187	187	187	187	187	187	187	
Workload	Pearson Correlation	,589(**)	,597(**)	,577(**)	,479(**)	,514(**)	,679(**)	,568(**)	1	,654(**)	,367(**)	,229(**)	-,178(*)
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000		,000	,000	,002	,015
Stress related to tasks	N	187	187	187	186	187	187	187	187	187	187	187	187
	Pearson Correlation	,675(**)	,724(**)	,652(**)	,530(**)	,462(**)	,785(**)	,603(**)	,654(**)	1	,516(**)	,292(**)	-,269(**)
Emotional exhaustion_mbi	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000			,000	,000	,000
	N	187	187	187	186	187	187	187	187	187	187	187	187
Depersonalization_mbi	Pearson Correlation	,429(**)	,497(**)	,398(**)	,406(**)	,154(*)	,419(**)	,433(**)	,367(**)	,516(**)	1	,643(**)	-,353(**)
	Sig. (2-tailed)	,000	,000	,000	,000	,035	,000	,000	,000	,000		,000	,000
Personal accomplishment_mbi	N	187	187	187	186	187	187	187	187	187	187	187	187
	Pearson Correlation	,197(**)	,297(**)	,216(**)	,245(**)	,112	,211(**)	,275(**)	,229(**)	,292(**)	,643(**)	1	-,158(*)
Personal accomplishment_mbi	Sig. (2-tailed)	,007	,000	,003	,001	,126	,004	,000	,002	,000	,000		,030
	N	187	187	187	186	187	187	187	187	187	187	187	187
Personal accomplishment_mbi	Pearson Correlation	-,086	-,168(*)	-,116	-,002	,099	-,109	-,149(*)	-,178(*)	-,269(**)	-,353(**)	,158(*)	1
	Sig. (2-tailed)	,240	,022	,113	,974	,177	,137	,042	,015	,000	,000	,030	
	N	187	187	187	186	187	187	187	187	187	187	187	187

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Section 10: Regression analysis for Emotional Exhaustion and Work Stress

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ee
/METHOD=STEPWISE ws .

```

Table 14: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Stress related to tasks		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	Conflicts with doctors		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	Work and private life		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
4	Relationship with patients		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: Emotional exhaustion_mbi

Table 15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,513(a)	,263	,259	9,21463
2	,543(b)	,295	,287	9,03723
3	,557(c)	,310	,299	8,96312
4	,574(d)	,329	,314	8,86568

a. Predictors: (Constant), Stress related to tasks

b. Predictors: (Constant), Stress related to tasks, Conflicts with doctors

c. Predictors: (Constant), Stress related to tasks, Conflicts with doctors, Work and private life

d. Predictors: (Constant), Stress related to tasks, Conflicts with doctors, Work and private life, Relationship with patients

Table 16: ANOVA(e)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5575,818	1	5575,818	65,668	,000(a)
	Residual	15623,322	184	84,909		
	Total	21199,140	185			
2	Regression	6253,264	2	3126,632	38,283	,000(b)
	Residual	14945,876	183	81,671		
	Total	21199,140	185			
3	Regression	6577,705	3	2192,568	27,292	,000(c)
	Residual	14621,434	182	80,338		
	Total	21199,140	185			
4	Regression	6972,486	4	1743,122	22,177	,000(d)
	Residual	14226,653	181	78,600		
	Total	21199,140	185			

a. Predictors: (Constant), Stress related to tasks

b. Predictors: (Constant), Stress related to tasks, Conflicts with doctors

c. Predictors: (Constant), Stress related to tasks, Conflicts with doctors, Work and private life

d. Predictors: (Constant), Stress related to tasks, Conflicts with doctors, Work and private life, Relationship with patients

e. Dependent Variable: Emotional exhaustion_mbi

Table 17: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	,124	2,264		,055	,956
	Stress related to tasks	1,204	,149	,513	8,104	,000
2	(Constant)	-1,725	2,311		-,746	,456
	Stress related to tasks	,766	,211	,326	3,634	,000
	Conflicts with doctors	,548	,190	,258	2,880	,004
3	(Constant)	-,016	2,445		-,007	,995
	Stress related to tasks	,872	,216	,371	4,045	,000
	Conflicts with doctors	,607	,191	,286	3,176	,002
	Work and private life	-,719	,358	-,141	-2,010	,046
4	(Constant)	-1,936	2,566		-,754	,452
	Stress related to tasks	,804	,215	,342	3,733	,000
	Conflicts with doctors	,469	,199	,221	2,357	,019
	Work and private life	-,908	,364	-,178	-2,497	,013
	Relationship with patients	,579	,258	,176	2,241	,026

a Dependent Variable: Emotional exhaustion_mbi

Table 18: Excluded Variables(e)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	Death, dying	,150(a)	1,754	,081	,129	,545
	Conflicts with doctors	,258(a)	2,880	,004	,208	,478
	Problems with colleagues	,106(a)	1,282	,202	,094	,579
	Relationship with patients	,186(a)	2,533	,012	,184	,719
	Work and private life	-,107(a)	-1,506	,134	-,111	,787
	Relationship with the patient's relatives	,038(a)	,368	,714	,027	,382
	Being unprepared and feeling inexperienced	,193(a)	2,468	,015	,179	,637
	Workload	,052(a)	,622	,535	,046	,573
2	Death, dying	,067(b)	,733	,465	,054	,465
	Problems with colleagues	,019(b)	,216	,829	,016	,494
	Relationship with patients	,130(b)	1,683	,094	,124	,637
	Work and private life	-,141(b)	-2,010	,046	-,147	,769
	Relationship with the patient's relatives	-,035(b)	-,335	,738	-,025	,359
	Being unprepared and feeling inexperienced	,107(b)	1,185	,238	,087	,473
	Workload	-,004(b)	-,048	,961	-,004	,540
3	Death, dying	,123(c)	1,318	,189	,098	,433
	Problems with colleagues	,043(c)	,483	,629	,036	,485
	Relationship with patients	,176(c)	2,241	,026	,164	,603
	Relationship with the patient's relatives	,018(c)	,171	,864	,013	,337
	Being unprepared and feeling inexperienced	,144(c)	1,593	,113	,118	,457
	Workload	,049(c)	,559	,577	,042	,495
4	Death, dying	,097(d)	1,035	,302	,077	,425
	Problems with colleagues	,009(d)	,099	,922	,007	,470

Relationship with the patient's relatives	,006(d)	,053	,958	,004	,336
Being unprepared and feeling inexperienced	,096(d)	1,024	,307	,076	,422
Workload	,034(d)	,396	,692	,030	,492

a Predictors in the Model: (Constant), Stress related to tasks

b Predictors in the Model: (Constant), Stress related to tasks, Conflicts with doctors

c Predictors in the Model: (Constant), Stress related to tasks, Conflicts with doctors, Work and private life

d Predictors in the Model: (Constant), Stress related to tasks, Conflicts with doctors, Work and private life, Relationship with patients

e Dependent Variable: Emotional exhaustion_mbi

/DEPENDENT dp
/METHOD=STEPWISE ws .

Table 19: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Conflicts with doctors		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: Depersonalization_mbi

Table 20: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,298(a)	,089	,084	4,57235

a Predictors: (Constant), Conflicts with doctors

Table 21: ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	373,712	1	373,712	17,876	,000(a)
	Residual	3846,767	184	20,906		
	Total	4220,478	185			

a Predictors: (Constant), Conflicts with doctors

b Dependent Variable: Depersonalization_mbi

Table 22: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t		Sig.
		B	Std. Error	Beta	B	Std. Error	
1	(Constant)	,932	1,054		,884	,378	
	Conflicts with doctors	,282	,067	,298	4,228	,000	

a Dependent Variable: Depersonalization_mbi

Table 23: Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	Death, dying	-,011(a)	-,119	,905	-,009	,534
	Problems with colleagues	,031(a)	,328	,744	,024	,550
	Relationship with patients	,108(a)	1,255	,211	,092	,663
	Work and private life	-,018(a)	-,234	,816	-,017	,818
	Relationship with the patient's relatives	,020(a)	,212	,832	,016	,549
	Being unprepared and feeling inexperienced	,128(a)	1,276	,204	,094	,488
	Workload	,081(a)	,919	,360	,068	,644
	Stress related to tasks	,164(a)	1,620	,107	,119	,478

a Predictors in the Model: (Constant), Conflicts with doctors

b Dependent Variable: Depersonalization_mbi

Section 12: Regression analysis for Personal Accomplishment and Work Stress

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT pa

/METHOD=STEPWISE ws .

Table 24: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Stress related to tasks		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	Work and private life		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: Personal accomplishment_mbi

Table 25: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,281(a)	,079	,074	7,21211
2	,380(b)	,144	,135	6,97070

a Predictors: (Constant), Stress related to tasks

b Predictors: (Constant), Stress related to tasks, Work and private life

Table 26: ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	817,952	1	817,952	15,725	,000(a)
	Residual	9570,672	184	52,015		
	Total	10388,624	185			
2	Regression	1496,525	2	748,263	15,399	,000(b)
	Residual	8892,098	183	48,591		
	Total	10388,624	185			

a Predictors: (Constant), Stress related to tasks

b Predictors: (Constant), Stress related to tasks, Work and private life

c Dependent Variable: Personal accomplishment_mbi

Table 27: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	41,793	1,772		23,585	,000
	Stress related to tasks	-,461	,116	-,281	-3,966	,000
2	(Constant)	39,068	1,861		20,988	,000
	Stress related to tasks	-,680	,127	-,414	-5,365	,000
	Work and private life	1,027	,275	,288	3,737	,000

a Dependent Variable: Personal accomplishment_mbi

Table 28: Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	Death, dying	,179(a)	1,884	,061	,138	,545
	Conflicts with doctors	,056(a)	,545	,586	,040	,478
	Problems with colleagues	,096(a)	1,034	,302	,076	,579
	Relationship with patients	,204(a)	2,475	,014	,180	,719
	Work and private life	,288(a)	3,737	,000	,266	,787
	Relationship with the patient's relatives	,282(a)	2,500	,013	,182	,382
	Being unprepared and feeling inexperienced	,024(a)	,269	,788	,020	,637
	Workload	,000(a)	,001	,999	,000	,573
2	Death, dying	,083(b)	,858	,392	,063	,496
	Conflicts with doctors	,000(b)	-,005	,996	,000	,467
	Problems with colleagues	,038(b)	,413	,680	,031	,561
	Relationship with patients	,133(b)	1,589	,114	,117	,667
	Relationship with the patient's relatives	,181(b)	1,581	,116	,116	,352
	Being unprepared and feeling inexperienced	-,053(b)	-,606	,545	-,045	,603
	Workload	-,118(b)	-1,244	,215	-,092	,515

a Predictors in the Model: (Constant), Stress related to tasks

b Predictors in the Model: (Constant), Stress related to tasks, Work and private life

c Dependent Variable: Personal accomplishment_mbi

Section 13: ANOVA for Life Satisfaction and Nationality

ONEWAY

ls BY country

/STATISTICS DESCRIPTIVES HOMOGENEITY WELCH

/MISSING ANALYSIS .

Table 29: Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
Hungarian	97	19,7423	6,87429	,69798	18,3568	21,1277	5,00	35,00
Swedish	90	25,8667	5,82362	,61386	24,6469	27,0864	11,00	35,00
Total	187	22,6898	7,07335	,51725	21,6694	23,7103	5,00	35,00

Table 30: Test of Homogeneity of Variances

ls			
Levene Statistic	df1	df2	Sig.
2,665	1	185	,104

Table 31: ANOVA

ls					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1751,054	1	1751,054	42,878	,000
Within Groups	7554,957	185	40,838		
Total	9306,011	186			

Table 32: Robust Tests of Equality of Means

ls				
	Statistic(a)	df1	df2	Sig.
Welch	43,412	1	183,516	,000

a. Asymptotically F distributed.

Section 14: Regression analysis for Life Satisfaction and Demographic variables

REGRESSION

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/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ls
/METHOD=STEPWISE country age wkcvpl edu_years married partner
morechildren worksalot .

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Table 33: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Nationality		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	Partner		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	More than 1 child		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: Life satisfaction

Table 34: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,434(a)	,188	,184	6,39043
2	,464(b)	,215	,207	6,30057
3	,486(c)	,236	,223	6,23390

a. Predictors: (Constant), Nationality

b. Predictors: (Constant), Nationality, Partner

c. Predictors: (Constant), Nationality, Partner, More than 1 child

Table 35: ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1751,054	1	1751,054	42,878	,000(a)
	Residual	7554,957	185	40,838		
	Total	9306,011	186			
2	Regression	2001,727	2	1000,863	25,212	,000(b)
	Residual	7304,284	184	39,697		
	Total	9306,011	186			
3	Regression	2194,353	3	731,451	18,822	,000(c)
	Residual	7111,657	183	38,862		
	Total	9306,011	186			

a Predictors: (Constant), Nationality

b Predictors: (Constant), Nationality, Partner

c Predictors: (Constant), Nationality, Partner, More than 1 child

d Dependent Variable: Life satisfaction

Table 36: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t		Sig.
		B	Std. Error	Beta	B	Std. Error	
1	(Constant)	13,618	1,462		9,314		,000
	Nationality	6,124	,935	,434	6,548		,000
2	(Constant)	12,622	1,495		8,443		,000
	Nationality	5,680	,939	,402	6,049		,000
	Partner	2,494	,993	,167	2,513		,013
3	(Constant)	13,395	1,519		8,816		,000
	Nationality	5,946	,937	,421	6,348		,000
	Partner	2,962	1,004	,198	2,950		,004
	More than 1 child	-2,227	1,000	-,149	-2,226		,027

a Dependent Variable: Life satisfaction

Table 37: Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	-,068(a)	-,898	,370	-,066	,762
	Number of years at the current workplace	,037(a)	,525	,600	,039	,897
	Years spent in education	-,021(a)	-,192	,848	-,014	,379
	Married	,103(a)	1,525	,129	,112	,948
	Partner	,167(a)	2,513	,013	,182	,964
	More than 1 child	-,108(a)	-1,612	,109	-,118	,973
	Works at least 40 hours	,096(a)	1,116	,266	,082	,590
2	age	-,068(b)	-,907	,366	-,067	,762
	Number of years at the current workplace	,024(b)	,341	,734	,025	,891
	Years spent in education	-,031(b)	-,288	,774	-,021	,379
	Married	-,004(b)	-,049	,961	-,004	,574
	More than 1 child	-,149(b)	-2,226	,027	-,162	,930
	Works at least 40 hours	,109(b)	1,285	,200	,095	,588
3	age	-,005(c)	-,059	,953	-,004	,648
	Number of years at the current workplace	,057(c)	,813	,417	,060	,855
	Years spent in education	-,066(c)	-,621	,535	-,046	,371
	Married	,054(c)	,604	,546	,045	,528
	Works at least 40 hours	,103(c)	1,221	,224	,090	,587

- a Predictors in the Model: (Constant), Nationality
- b Predictors in the Model: (Constant), Nationality, Partner
- c Predictors in the Model: (Constant), Nationality, Partner, More than 1 child
- d Dependent Variable: Life satisfaction

Section 15: Regression analysis for Life Satisfaction and all variables

REGRESSION

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/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ls
/METHOD=STEPWISE age wkcpwl edu_years partner morechildren worksalot
workedalot married country fam fri so ss picl ws ee dp pa .

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Table 38: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Sense of coherence subscale_PICl		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	Family subscale_ social support questionnaire		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	country		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
4	Depersonalization_mbi		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
5	Emotional exhaustion_mbi		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
6	Friends subscale_ social support questionnaire		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: ls

Table 39: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,578(a)	,334	,330	5,83514
2	,670(b)	,449	,443	5,32117
3	,734(c)	,538	,530	4,88820
4	,744(d)	,554	,544	4,81683
5	,754(e)	,568	,555	4,75536
6	,762(f)	,581	,566	4,69881

- a Predictors: (Constant), Sense of coherence subscale_PICl
- b Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire
- c Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country
- d Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi
- e Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi, Emotional exhaustion_mbi

f Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi, Emotional exhaustion_mbi, Friends subscale_ social support questionnaire

Table 40: ANOVA(g)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3008,075	1	3008,075	88,346	,000(a)
	Residual	5992,605	176	34,049		
	Total	9000,680	177			
2	Regression	4045,582	2	2022,791	71,439	,000(b)
	Residual	4955,098	175	28,315		
	Total	9000,680	177			
3	Regression	4843,034	3	1614,345	67,561	,000(c)
	Residual	4157,645	174	23,895		
	Total	9000,680	177			
4	Regression	4986,756	4	1246,689	53,732	,000(d)
	Residual	4013,924	173	23,202		
	Total	9000,680	177			
5	Regression	5111,160	5	1022,232	45,205	,000(e)
	Residual	3889,520	172	22,613		
	Total	9000,680	177			
6	Regression	5225,197	6	870,866	39,443	,000(f)
	Residual	3775,483	171	22,079		
	Total	9000,680	177			

a Predictors: (Constant), Sense of coherence subscale_PICl

b Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire

c Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country

d Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi

e Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi, Emotional exhaustion_mbi

f Predictors: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi, Emotional exhaustion_mbi, Friends subscale_ social support questionnaire

g Dependent Variable: Is

Table 41: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	-,155	2,460		-,063	,950
	Sense of coherence subscale_PICl	1,455	,155	,578	9,399	,000
2	(Constant)	-8,019	2,593		-3,093	,002
	Sense of coherence subscale_PICl	1,105	,153	,439	7,242	,000
	Family subscale_ social support questionnaire	2,202	,364	,367	6,053	,000
3	(Constant)	-11,371	2,451		-4,639	,000
	Sense of coherence subscale_PICl	,917	,144	,364	6,377	,000
	Family subscale_ social support questionnaire	2,176	,334	,363	6,511	,000
	country	4,377	,758	,307	5,777	,000
4	(Constant)	-14,648	2,751		-5,325	,000
	Sense of coherence subscale_PICl	1,006	,146	,400	6,884	,000
	Family subscale_ social support questionnaire	2,196	,329	,366	6,664	,000

5	country	4,870	,772	,342	6,305	,000
	Depersonalization_mbi	,206	,083	,138	2,489	,014
	(Constant)	-11,271	3,074		-3,667	,000
	Sense of coherence subscale_PICl	,945	,147	,375	6,439	,000
	Family subscale_social support questionnaire	2,160	,326	,360	6,635	,000
6	Country	4,301	,800	,302	5,375	,000
	Depersonalization_mbi	,343	,100	,230	3,413	,001
	Emotional exhaustion_mbi	-,117	,050	-,170	-2,345	,020
	(Constant)	-13,616	3,208		-4,245	,000
	Sense of coherence subscale_PICl	,891	,147	,354	6,067	,000
	Family subscale_social support questionnaire	1,786	,361	,298	4,941	,000
	country	4,397	,792	,309	5,553	,000
	Depersonalization_mbi	,346	,099	,232	3,488	,001
	Emotional exhaustion_mbi	-,112	,049	-,163	-2,273	,024
	Friends subscale_social support questionnaire	,885	,389	,135	2,273	,024

a. Dependent Variable: Is

Table 42: Excluded Variables(g)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	,121(a)	1,984	,049	,148	,997
	Number of years at the current workplace	,180(a)	2,997	,003	,221	,999
	Years spent in education	,193(a)	3,097	,002	,228	,927
	Partner	,140(a)	2,271	,024	,169	,973
	More than 1 child	-,012(a)	-,195	,846	-,015	,997
	Works at least 40 hours	-,124(a)	-2,009	,046	-,150	,978
	More than 5 years worked as a nurse	-,109(a)	-1,783	,076	-,134	1,000
	Married	,135(a)	2,212	,028	,165	,991
	country	,312(a)	5,275	,000	,370	,939
	Family subscale_social support questionnaire	,367(a)	6,053	,000	,416	,856
	Friends subscale_social support questionnaire	,262(a)	4,184	,000	,302	,880
	Significant other subscale_social support questionnaire	,256(a)	4,044	,000	,292	,869
	Social support questionnaire	,362(a)	5,814	,000	,402	,822
	Positive thinking subscale_PICl	,248(a)	3,448	,001	,252	,689
	Sense of control subscale_PICl	,012(a)	,187	,852	,014	,941
	Creative Self-Concept subscale_PICl	,182(a)	2,506	,013	,186	,698
	Sense of Self-Growth subscale_PICl	,140(a)	1,643	,102	,123	,518
	Change and Challenge orient. subscale_PICl	,129(a)	1,963	,051	,147	,863

2	Social monitoring capac. subscale_PICl	,049(a)	,779	,437	,059	,957
	Problem solving capac. subscale_PICl	,013(a)	,204	,839	,015	,947
	Self-Efficacy subscale_PICl	,011(a)	,164	,870	,012	,837
	Social mobilizing capac. subscale_PICl	,132(a)	2,044	,042	,153	,893
	Social creation capac. subscale_PICl	,076(a)	1,177	,241	,089	,909
	Synchronicity subscale_PICl	,028(a)	,372	,710	,028	,656
	Goal orientation subscale_PICl	-,062(a)	-,863	,389	-,065	,743
	Impulse control subscale_PICl	,068(a)	,995	,321	,075	,812
	Emotional control subscale_PICl	,126(a)	1,855	,065	,139	,806
	Irritability control subscale_PICl	,158(a)	2,344	,020	,174	,808
	Death, dying	-,095(a)	-1,519	,131	-,114	,964
	Conflicts with doctors	-,120(a)	-1,942	,054	-,145	,972
	Problems with colleagues	-,067(a)	-1,078	,283	-,081	,980
	Relationship with patients	-,033(a)	-,526	,599	-,040	,955
	Work and private life	-,023(a)	-,377	,707	-,028	,999
	Relationship with the patient's relatives	-,121(a)	-1,921	,056	-,144	,939
	Being unprepared and feeling inexperienced	-,059(a)	-,940	,348	-,071	,974
	Workload	-,154(a)	-2,439	,016	-,181	,927
	Stress related to tasks	-,163(a)	-2,554	,011	-,190	,904
	Work stress sum	-,127(a)	-2,010	,046	-,150	,937
	Emotional exhaustion_mbi	-,168(a)	-2,548	,012	-,189	,847
	Depersonalization_mbi	,039(a)	,598	,550	,045	,893
	Personal accomplishment_mbi	,228(a)	3,582	,000	,261	,876
	Age	,144(b)	2,607	,010	,194	,992
	Number of years at the current workplace	,187(b)	3,423	,001	,251	,998
	Years spent in education	,191(b)	3,366	,001	,247	,927
	Partner	,102(b)	1,786	,076	,134	,960
	More than 1 child	,011(b)	,189	,850	,014	,992
	Works at least 40 hours	-,122(b)	-2,174	,031	-,163	,978
	More than 5 years worked as a nurse	-,095(b)	-1,711	,089	-,129	,998
	Married	,101(b)	1,796	,074	,135	,980
	Country	,307(b)	5,777	,000	,401	,938
	Friends subscale_social support questionnaire	,122(b)	1,832	,069	,138	,696
	Significant other subscale_social support questionnaire	-,022(b)	-,250	,803	-,019	,405

3	Social support questionnaire	,145(b)	1,116	,266	,084	,186
	Positive thinking subscale_PICl	,150(b)	2,155	,033	,161	,640
	Sense of control subscale_PICl	-,011(b)	-,185	,854	-,014	,937
	Creative Self-Concept subscale_PICl	,108(b)	1,585	,115	,119	,672
	Sense of Self-Growth subscale_PICl	,087(b)	1,104	,271	,083	,511
	Change and Challenge orient. subscale_PICl	,128(b)	2,144	,033	,160	,863
	Social monitoring capac. subscale_PICl	,038(b)	,653	,515	,049	,956
	Problem solving capac. subscale_PICl	,038(b)	,662	,509	,050	,942
	Self-Efficacy subscale_PICl	-,015(b)	-,237	,813	-,018	,833
	Social mobilizing capac. subscale_PICl	,005(b)	,078	,938	,006	,781
	Social creation capac. subscale_PICl	,056(b)	,956	,340	,072	,906
	Synchronicity subscale_PICl	,030(b)	,429	,668	,033	,656
	Goal orientation subscale_PICl	-,096(b)	-1,472	,143	-,111	,738
	Impulse control subscale_PICl	,033(b)	,533	,595	,040	,805
	Emotional control subscale_PICl	,131(b)	2,119	,035	,159	,806
	Irritability control subscale_PICl	,131(b)	2,115	,036	,158	,804
	Death, dying	-,109(b)	-1,926	,056	-,144	,962
	Conflicts with doctors	-,136(b)	-2,428	,016	-,181	,970
	Problems with colleagues	-,068(b)	-1,195	,234	-,090	,980
	Relationship with patients	-,027(b)	-,475	,635	-,036	,954
	Work and private life	-,010(b)	-,170	,865	-,013	,998
	Relationship with the patient's relatives	-,147(b)	-2,566	,011	-,191	,935
	Being unprepared and feeling inexperienced	-,086(b)	-1,507	,133	-,114	,969
	Workload	-,157(b)	-2,738	,007	-,203	,927
	Stress related to tasks	-,174(b)	-3,015	,003	-,223	,903
	Work stress sum	-,138(b)	-2,415	,017	-,180	,936
	Emotional exhaustion_mbi	-,149(b)	-2,471	,014	-,184	,845
	Depersonalization_mbi	,048(b)	,816	,416	,062	,893
	Personal accomplishment_mbi	,212(b)	3,662	,000	,268	,874
	Age	,005(c)	,077	,939	,006	,772
	Number of years at the	,103(c)	1,917	,057	,144	,900

current workplace					
Years spent in education	-,116(c)	-1,384	,168	-,105	,379
Partner	,057(c)	1,077	,283	,082	,939
More than 1 child	-,042(c)	-,795	,428	-,060	,963
Works at least 40 hours	,123(c)	1,815	,071	,137	,572
More than 5 years worked as a nurse	-,069(c)	-1,335	,184	-,101	,990
Married	,045(c)	,854	,394	,065	,944
Friends subscale_ social support questionnaire	,133(c)	2,182	,030	,164	,696
Significant other subscale_ social support questionnaire	,005(c)	,060	,953	,005	,404
Social support questionnaire	,184(c)	1,546	,124	,117	,186
Positive thinking subscale_PICl	,088(c)	1,356	,177	,103	,621
Sense of control subscale_PICl	,065(c)	1,182	,239	,089	,886
Creative Self-Concept subscale_PICl	,047(c)	,742	,459	,056	,653
Sense of Self-Growth subscale_PICl	,036(c)	,496	,620	,038	,504
Change and Challenge orient. subscale_PICl	,075(c)	1,339	,182	,101	,838
Social monitoring capac. subscale_PICl	-,013(c)	-,242	,809	-,018	,930
Problem solving capac. subscale_PICl	,036(c)	,685	,495	,052	,942
Self-Efficacy subscale_PICl	,025(c)	,434	,665	,033	,821
Social mobilizing capac. subscale_PICl	-,019(c)	-,326	,744	-,025	,777
Social creation capac. subscale_PICl	,065(c)	1,207	,229	,091	,905
Synchronicity subscale_PICl	,059(c)	,932	,353	,071	,652
Goal orientation subscale_PICl	-,105(c)	-1,766	,079	-,133	,737
Impulse control subscale_PICl	,014(c)	,246	,806	,019	,802
Emotional control subscale_PICl	,040(c)	,664	,508	,050	,741
Irritability control subscale_PICl	,044(c)	,742	,459	,056	,745
Death, dying	,042(c)	,704	,482	,053	,751
Conflicts with doctors	-,020(c)	-,349	,728	-,027	,818
Problems with colleagues	,021(c)	,380	,705	,029	,898
Relationship with patients	-,014(c)	-,267	,790	-,020	,953
Work and private life	-,017(c)	-,319	,750	-,024	,997
Relationship with the patient's relatives	-,029(c)	-,490	,625	-,037	,787

4	Being unprepared and feeling inexperienced	,009(c)	,168	,867	,013	,875
	Workload	-,035(c)	-,595	,553	-,045	,769
	Stress related to tasks	-,008(c)	-,132	,895	-,010	,643
	Work stress sum	-,009(c)	-,152	,879	-,012	,767
	Emotional exhaustion_mbi	-,027(c)	-,440	,661	-,033	,717
	Depersonalization_mbi	,138(c)	2,489	,014	,186	,834
	Personal accomplishment_mbi	,117(c)	2,016	,045	,152	,772
	age	,011(d)	,191	,849	,015	,770
	Number of years at the current workplace	,104(d)	1,957	,052	,148	,900
	Years spent in education	-,163(d)	-1,950	,053	-,147	,364
	Partner	,072(d)	1,363	,175	,103	,928
	More than 1 child	-,024(d)	-,459	,647	-,035	,944
	Works at least 40 hours	,118(d)	1,765	,079	,133	,572
	More than 5 years worked as a nurse	-,069(d)	-1,360	,176	-,103	,990
	Married	,071(d)	1,346	,180	,102	,913
	Friends subscale_social support questionnaire	,141(d)	2,345	,020	,176	,694
	Significant other subscale_social support questionnaire	,026(d)	,327	,744	,025	,399
	Social support questionnaire	,215(d)	1,829	,069	,138	,184
	Positive thinking subscale_PICl	,107(d)	1,654	,100	,125	,615
	Sense of control subscale_PICl	,094(d)	1,722	,087	,130	,852
	Creative Self-Concept subscale_PICl	,073(d)	1,150	,252	,087	,637
	Sense of Self-Growth subscale_PICl	,057(d)	,792	,429	,060	,497
	Change and Challenge orient. subscale_PICl	,086(d)	1,549	,123	,117	,833
	Social monitoring capac. subscale_PICl	-,001(d)	-,013	,989	-,001	,922
	Problem solving capac. subscale_PICl	,063(d)	1,176	,241	,089	,910
	Self-Efficacy subscale_PICl	,049(d)	,863	,389	,066	,799
	Social mobilizing capac. subscale_PICl	,004(d)	,077	,939	,006	,756
	Social creation capac. subscale_PICl	,082(d)	1,538	,126	,117	,892
	Synchronicity subscale_PICl	,071(d)	1,132	,259	,086	,649
	Goal orientation subscale_PICl	-,082(d)	-1,369	,173	-,104	,714
	Impulse control subscale_PICl	,014(d)	,249	,804	,019	,802
	Emotional control subscale_PICl	,031(d)	,531	,596	,040	,738

5	Irritability control subscale_PICl	,059(d)	,992	,323	,075	,738
	Death, dying	,037(d)	,631	,529	,048	,750
	Conflicts with doctors	-,049(d)	-,853	,395	-,065	,787
	Problems with colleagues	,008(d)	,149	,882	,011	,890
	Relationship with patients	-,039(d)	-,730	,467	-,056	,922
	Work and private life	-,032(d)	-,625	,533	-,048	,983
	Relationship with the patient's relatives	-,033(d)	-,577	,565	-,044	,786
	Being unprepared and feeling inexperienced	-,013(d)	-,240	,811	-,018	,852
	Workload	-,052(d)	-,896	,372	-,068	,759
	Stress related to tasks	-,021(d)	-,323	,747	-,025	,640
	Work stress sum	-,031(d)	-,523	,602	-,040	,751
	Emotional exhaustion_mbi	-,170(d)	-2,345	,020	-,176	,477
	Personal accomplishment_mbi	,112(d)	1,961	,052	,148	,771
	age	,011(e)	,199	,843	,015	,770
	Number of years at the current workplace	,090(e)	1,705	,090	,129	,887
	Years spent in education	-,157(e)	-1,899	,059	-,144	,363
	Partner	,088(e)	1,684	,094	,128	,915
	More than 1 child	-,033(e)	-,638	,525	-,049	,939
	Works at least 40 hours	,113(e)	1,720	,087	,130	,571
	More than 5 years worked as a nurse	-,076(e)	-1,503	,135	-,114	,987
	Married	,072(e)	1,385	,168	,105	,913
	Friends subscale_ social support questionnaire	,135(e)	2,273	,024	,171	,693
	Significant other subscale_ social support questionnaire	,050(e)	,623	,534	,048	,393
	Social support questionnaire	,227(e)	1,961	,051	,148	,184
	Positive thinking subscale_PICl	,082(e)	1,259	,210	,096	,594
	Sense of control subscale_PICl	,081(e)	1,484	,140	,113	,842
	Creative Self-Concept subscale_PICl	,067(e)	1,062	,290	,081	,636
	Sense of Self-Growth subscale_PICl	,036(e)	,505	,614	,039	,489
	Change and Challenge orient. subscale_PICl	,078(e)	1,412	,160	,107	,829
	Social monitoring capac. subscale_PICl	,004(e)	,074	,941	,006	,921
	Problem solving capac. subscale_PICl	,049(e)	,922	,358	,070	,897
	Self-Efficacy subscale_PICl	,035(e)	,621	,536	,047	,789

6	Social mobilizing capac. subscale_PICl	,004(e)	,073	,942	,006	,756
	Social creation capac. subscale_PICl	,087(e)	1,649	,101	,125	,891
	Synchronicity subscale_PICl	,035(e)	,548	,585	,042	,604
	Goal orientation subscale_PICl	-,087(e)	-1,465	,145	-,111	,714
	Impulse control subscale_PICl	,010(e)	,186	,853	,014	,802
	Emotional control subscale_PICl	-,026(e)	-,416	,678	-,032	,624
	Irritability control subscale_PICl	,032(e)	,543	,588	,041	,708
	Death, dying	,080(e)	1,328	,186	,101	,695
	Conflicts with doctors	-,006(e)	-,096	,924	-,007	,701
	Problems with colleagues	,046(e)	,829	,408	,063	,823
	Relationship with patients	-,002(e)	-,034	,973	-,003	,838
	Work and private life	-,008(e)	-,156	,876	-,012	,942
	Relationship with the patient's relatives	,007(e)	,110	,912	,008	,718
	Being unprepared and feeling inexperienced	,029(e)	,503	,616	,038	,771
	Workload	-,014(e)	-,228	,820	-,017	,694
	Stress related to tasks	,030(e)	,452	,652	,035	,573
	Work stress sum	,023(e)	,364	,716	,028	,647
	Personal accomplishment_mbi	,088(e)	1,512	,132	,115	,736
	Age	,031(f)	,536	,593	,041	,754
	Number of years at the current workplace	,090(f)	1,718	,088	,131	,887
	Years spent in education	-,137(f)	-1,665	,098	-,127	,359
	Partner	,086(f)	1,671	,097	,127	,914
	More than 1 child	-,021(f)	-,403	,687	-,031	,928
	Works at least 40 hours	,115(f)	1,764	,080	,134	,571
	More than 5 years worked as a nurse	-,085(f)	-1,702	,091	-,129	,982
	Married	,086(f)	1,658	,099	,126	,903
	Significant other subscale_ social support questionnaire	,018(f)	,226	,821	,017	,380
	Social support questionnaire	,044(f)	,226	,821	,017	,064
	Positive thinking subscale_PICl	,073(f)	1,138	,257	,087	,592
	Sense of control subscale_PICl	,090(f)	1,666	,098	,127	,838
	Creative Self-Concept subscale_PICl	,061(f)	,982	,328	,075	,635
	Sense of Self-Growth subscale_PICl	,026(f)	,365	,716	,028	,487

Change and Challenge orient. subscale_PICl	,082(f)	1,518	,131	,116	,828
Social monitoring capac. subscale_PICl	,003(f)	,050	,961	,004	,921
Problem solving capac. subscale_PICl	,033(f)	,620	,536	,047	,880
Self-Efficacy subscale_PICl	,045(f)	,801	,424	,061	,785
Social mobilizing capac. subscale_PICl	-,029(f)	-,499	,618	-,038	,710
Social creation capac. subscale_PICl	,076(f)	1,441	,151	,110	,882
Synchronicity subscale_PICl	,026(f)	,412	,681	,032	,602
Goal orientation subscale_PICl	-,081(f)	-1,387	,167	-,106	,712
Impulse control subscale_PICl	,021(f)	,374	,709	,029	,797
Emotional control subscale_PICl	-,041(f)	-,647	,518	-,050	,618
Irritability control subscale_PICl	,027(f)	,453	,651	,035	,707
Death, dying	,066(f)	1,105	,271	,084	,687
Conflicts with doctors	-,009(f)	-,147	,883	-,011	,701
Problems with colleagues	,042(f)	,762	,447	,058	,822
Relationship with patients	-,020(f)	-,358	,721	-,027	,821
Work and private life	-,026(f)	-,501	,617	-,038	,921
Relationship with the patient's relatives	-,001(f)	-,020	,984	-,002	,715
Being unprepared and feeling inexperienced	,017(f)	,298	,766	,023	,764
Workload	-,017(f)	-,282	,779	-,022	,693
Stress related to tasks	,018(f)	,276	,783	,021	,569
Work stress sum	,010(f)	,162	,872	,012	,642
Personal accomplishment_mbi	,074(f)	1,269	,206	,097	,726

a Predictors in the Model: (Constant), Sense of coherence subscale_PICl

b Predictors in the Model: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire

c Predictors in the Model: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country

d Predictors in the Model: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi

e Predictors in the Model: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi, Emotional exhaustion_mbi

f Predictors in the Model: (Constant), Sense of coherence subscale_PICl, Family subscale_ social support questionnaire, country, Depersonalization_mbi, Emotional exhaustion_mbi, Friends subscale_ social support questionnaire

g Dependent Variable: Is

Section 16: Correlations of the PICI subscales

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CORRELATIONS
/VARIABLES=age appbelief moncreatexec selfreg
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE .
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Table 43: Correlations

		age	Approach-Belief System	Monitoring-Creating Executing System	Self-Regulating System
age	Pearson Correlation	1	,077	,189(*)	,161(*)
	Sig. (2-tailed)		,297	,010	,029
	N	187	184	184	184
Approach-Belief System	Pearson Correlation	,077	1	,679(**)	,679(**)
	Sig. (2-tailed)	,297		,000	,000
	N	184	184	182	182
Monitoring-Creating Executing System	Pearson Correlation	,189(*)	,679(**)	1	,402(**)
	Sig. (2-tailed)	,010	,000		,000
	N	184	182	184	181
Self-Regulating System	Pearson Correlation	,161(*)	,679(**)	,402(**)	1
	Sig. (2-tailed)	,029	,000	,000	
	N	184	182	181	184

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Section 17: Confirmatory Factor Analysis of the PICI subscales (AMOS output)

Table 44: Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
Social Creating Capacity	<--- CREEXSYS	1,000				
Social Mobilizing Capacity	<--- CREEXSYS	,846	,122	6,955	***	
Social Monitoring Capacity	<--- CREEXSYS	,979	,128	7,626	***	
Problem Solving Capacity	<--- CREEXSYS	1,045	,128	8,177	***	
Sense of Control	<--- APPMONSYS	,410	,077	5,299	***	
Sense of Self-Growth	<--- APPMONSYS	,920	,092	10,037	***	
Sense of Coherence	<--- APPMONSYS	,982	,094	10,425	***	
Positive Thinking	<--- APPMONSYS	1,000				
Change and Challenge Orientation	<--- CREEXSYS	1,064	,137	7,790	***	
Goal Orientation	<--- CREEXSYS	,591	,108	5,476	***	
Self-Efficacy	<--- CREEXSYS	1,008	,107	9,402	***	
Creative Self-Concept	<--- CREEXSYS	1,478	,140	10,555	***	
Synchronicity	<--- SELFREGSYS	1,000				
Impulse Control	<--- SELFREGSYS	,675	,098	6,897	***	
Emotional Control	<--- SELFREGSYS	1,067	,120	8,873	***	
Irritability Control	<--- SELFREGSYS	,983	,111	8,867	***	

Table 45: Standardized Regression Weights: (Group number 1 - Default model)

		Estimate
Social Creating Capacity	<--- CREEXSYS	,686
Social Mobilizing Capacity	<--- CREEXSYS	,551
Social Monitoring Capacity	<--- CREEXSYS	,608
Problem Solving Capacity	<--- CREEXSYS	,655
Sense of Control	<--- APPMONSYS	,403
Sense of Self-Growth	<--- APPMONSYS	,729
Sense of Coherence	<--- APPMONSYS	,755
Positive Thinking	<--- APPMONSYS	,759
Change and Challenge Orientation	<--- CREEXSYS	,621
Goal Orientation	<--- CREEXSYS	,429
Self-Efficacy	<--- CREEXSYS	,763
Creative Self-Concept	<--- CREEXSYS	,877
Synchronicity	<--- SELFREGSYS	,730
Impulse Control	<--- SELFREGSYS	,555
Emotional Control	<--- SELFREGSYS	,721
Irritability Control	<--- SELFREGSYS	,720

Table 46: Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Social Creating Capacity	13,182	,197	66,815	***	
Social Mobilizing Capacity	14,963	,208	71,937	***	
Social Monitoring Capacity	13,919	,218	63,804	***	
Problem Solving Capacity	13,989	,216	64,730	***	
Sense of Control	13,700	,164	83,776	***	
Sense of Self-Growth	15,449	,202	76,562	***	
Sense of Coherence	15,667	,208	75,262	***	
Positive Thinking	15,289	,211	72,555	***	
Change and Challenge Orientation	14,567	,232	62,825	***	
Goal Orientation	16,262	,186	87,255	***	
Self-Efficacy	15,417	,179	86,167	***	
Creative Self-Concept	15,106	,228	66,217	***	
Synchronicity	14,748	,219	67,303	***	
Impulse Control	14,502	,194	74,591	***	
Emotional Control	13,342	,236	56,522	***	
Irritability Control	13,674	,218	62,798	***	

Table 47: Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CREEXSYS <--> APPMONSYS	3,209	,521	6,155	***	
SELFREGSYS <--> APPMONSYS	4,207	,645	6,518	***	
SELFREGSYS <--> CREEXSYS	1,931	,427	4,521	***	

Table 48: Correlations: (Group number 1 - Default model)

	Estimate
CREEXSYS <--> APPMONSYS	,797
SELFREGSYS <--> APPMONSYS	,887
SELFREGSYS <--> CREEXSYS	,481

Table 49: Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CREEXSYS	3,407	,664	5,127	***	
APPMONSYS	4,758	,812	5,859	***	
SELFREGSYS	4,730	,885	5,342	***	
e1	3,833	,440	8,705	***	
e2	5,607	,610	9,189	***	
e3	5,557	,617	9,004	***	
e4	4,940	,560	8,828	***	
e5	4,127	,439	9,392	***	
e6	3,546	,425	8,339	***	
e7	3,451	,428	8,062	***	
e8	3,501	,435	8,040	***	
e9	6,143	,684	8,985	***	
e10	5,270	,560	9,408	***	
e11	2,492	,305	8,161	***	
e12	2,224	,365	6,096	***	
e13	4,147	,550	7,536	***	
e14	4,848	,549	8,831	***	
e15	4,982	,648	7,683	***	
e16	4,245	,552	7,689	***	

Model Fit Summary

Table 50: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	51	375,757	101	,000	3,720
Saturated model	152	,000	0		
Independence model	16	1523,913	136	,000	11,205

Table 51: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,753	,668	,807	,733	,802
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

Table 52: Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	,743	,560	,596
Saturated model	,000	,000	,000
Independence model	1,000	,000	,000

Table 53: NCP

Model	NCP	LO 90	HI 90
Default model	274,757	219,173	337,920
Saturated model	,000	,000	,000
Independence model	1387,913	1266,055	1517,187

Table 54: FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2,020	1,477	1,178	1,817
Saturated model	,000	,000	,000	,000
Independence model	8,193	7,462	6,807	8,157

Table 55: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,121	,108	,134	,000
Independence model	,234	,224	,245	,000

Table 56: AIC

Model	AIC	BCC	BIC	CAIC
Default model	477,757	488,017		
Saturated model	304,000	334,580		
Independence model	1555,913	1559,132		

Table 57: ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2,569	2,270	2,908	2,624
Saturated model	1,634	1,634	1,634	1,799
Independence model	8,365	7,710	9,060	8,382

Table 58: HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	63	68
Independence model	21	22

Section 18: ANOVA for the PICI subscales and Nationality

ONEWAY

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posthink control coher selfconc selfgrow chanchall socmonit probsolv selfeffi
socmob socreat synchron goalorient impuls emotion irritability BY country
/STATISTICS DESCRIPTIVES HOMOGENEITY WELCH
/MISSING ANALYSIS .
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Table 59: Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
Positive thinking subscale_PIC I	Hungarian	97	14,5052	3,12625	,31742	13,8751	15,1352	6,00	20,00
	Swedish	90	16,1333	2,32814	,24541	15,6457	16,6210	8,00	20,00
	Total	187	15,2888	2,88154	,21072	14,8731	15,7045	6,00	20,00
Sense of control subscale_PIC I	Hungarian	95	14,0737	2,42874	,24918	13,5789	14,5684	7,00	19,00
	Swedish	90	13,3222	1,92458	,20287	12,9191	13,7253	6,00	17,00
	Total	185	13,7081	2,22417	,16352	13,3855	14,0307	6,00	19,00
Sense of coherence subscale_PIC I	Hungarian	97	14,9381	2,98543	,30312	14,3364	15,5398	8,00	20,00
	Swedish	89	16,4607	2,46824	,26163	15,9407	16,9806	8,00	20,00
	Total	186	15,6667	2,84684	,20874	15,2548	16,0785	8,00	20,00
Creative Self-Concept subscale_PIC I	Hungarian	96	14,3125	3,21284	,32791	13,6615	14,9635	5,00	20,00
	Swedish	90	15,9444	2,80193	,29535	15,3576	16,5313	6,00	20,00
	Total	186	15,1022	3,12190	,22891	14,6505	15,5538	5,00	20,00
Sense of Self-Growth subscale_PIC I	Hungarian	97	14,7629	2,91824	,29630	14,1747	15,3510	8,00	20,00
	Swedish	90	16,1889	2,37919	,25079	15,6906	16,6872	7,00	20,00
	Total	187	15,4492	2,75941	,20179	15,0511	15,8473	7,00	20,00
Change and Challenge orient. subscale_PIC I	Hungarian	97	13,8247	3,21458	,32639	13,1769	14,4726	6,00	20,00
	Swedish	90	15,3667	2,93545	,30942	14,7518	15,9815	7,00	20,00
	Total	187	14,5668	3,17069	,23186	14,1094	15,0243	6,00	20,00
Social monit. capac. subscale_PIC I	Hungarian	96	13,2813	3,24995	,33170	12,6227	13,9398	6,00	20,00
	Swedish	90	14,5889	2,50794	,26436	14,0636	15,1142	8,00	20,00
	Total	186	13,9140	2,97977	,21849	13,4829	14,3450	6,00	20,00
Problem solv. capac. subscale_PIC I	Hungarian	97	13,8454	3,39528	,34474	13,1611	14,5297	5,00	20,00
	Swedish	89	14,1348	2,38933	,25327	13,6315	14,6381	8,00	20,00
	Total	186	13,9839	2,95274	,21651	13,5567	14,4110	5,00	20,00
Self-Efficacy subscale_PIC I	Hungarian	97	15,3918	2,57616	,26157	14,8725	15,9110	9,00	20,00
	Swedish	90	15,4444	2,31318	,24383	14,9600	15,9289	8,00	20,00
	Total	187	15,4171	2,44671	,17892	15,0641	15,7701	8,00	20,00
Social mob. capac.	Hungarian	97	14,6082	3,07733	,31246	13,9880	15,2285	7,00	20,00

subscale_PIC I									
	Swedish	90	15,3444	2,53143	,26684	14,8142	15,8746	6,00	20,00
	Total	187	14,9626	2,84429	,20800	14,5522	15,3729	6,00	20,00
Social creat. capac. subscale_PIC I	Hungarian	97	13,0825	2,79758	,28405	12,5186	13,6463	7,00	20,00
	Swedish	90	13,2889	2,59751	,27380	12,7449	13,8329	7,00	19,00
	Total	187	13,1818	2,69789	,19729	12,7926	13,5710	7,00	20,00
Synchronicity subscale_PIC I	Hungarian	96	14,4896	3,22815	,32947	13,8355	15,1437	8,00	20,00
	Swedish	89	15,0787	2,66383	,28237	14,5175	15,6398	6,00	20,00
	Total	185	14,7730	2,97678	,21886	14,3412	15,2048	6,00	20,00
Goal orient. subscale_PIC I	Hungarian	97	15,9175	2,79386	,28367	15,3544	16,4806	7,00	20,00
	Swedish	90	16,6333	2,21055	,23301	16,1703	17,0963	10,00	20,00
	Total	187	16,2620	2,54862	,18637	15,8944	16,6297	7,00	20,00
Impulse control subscale_PIC I	Hungarian	97	14,1031	2,97379	,30194	13,5037	14,7024	6,00	20,00
	Swedish	89	14,9101	2,18279	,23137	14,4503	15,3699	9,00	18,00
	Total	186	14,4892	2,64930	,19426	14,1060	14,8725	6,00	20,00
Emotional control subscale_PIC I	Hungarian	97	12,1959	3,36848	,34202	11,5170	12,8748	5,00	19,00
	Swedish	90	14,5778	2,56150	,27001	14,0413	15,1143	9,00	20,00
	Total	187	13,3422	3,22798	,23605	12,8766	13,8079	5,00	20,00
Irritability subscale_PIC I	Hungarian	97	12,6804	3,07390	,31211	12,0609	13,2999	5,00	20,00
	Swedish	90	14,7444	2,47032	,26039	14,2270	15,2618	8,00	20,00
	Total	187	13,6738	2,97761	,21774	13,2442	14,1034	5,00	20,00

Table 60: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Positive thinking subscale_PICI	6,707	1	185	,010
Sense of control subscale_PICI	5,679	1	183	,018
Sense of coherence subscale_PICI	5,048	1	184	,026
Creative Self-Concept subscale_PICI	3,106	1	184	,080
Sense of Self-Growth subscale_PICI	6,497	1	185	,012
Change and Challenge orient. subscale_PICI	2,262	1	185	,134
Social monitoring capac. subscale_PICI	7,900	1	184	,005
Problem solving capac. subscale_PICI	8,974	1	184	,003

Self-Efficacy subscale_PICl	2,140	1	185	,145
Social mobilizing capac. subscale_PICl	3,284	1	185	,072
Social creation capac. subscale_PICl	,337	1	185	,562
Synchronicity subscale_PICl	6,493	1	183	,012
Goal orientation subscale_PICl	6,248	1	185	,013
Impulse control subscale_PICl	11,548	1	184	,001
Emotional control subscale_PICl	6,703	1	185	,010
Irritability control subscale_PICl	2,621	1	185	,107

Table 61: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Positive thinking subscale_PICl	Between Groups	123,759	1	123,759	16,116	,000
	Within Groups	1420,647	185	7,679		
	Total	1544,406	186			
Sense of control subscale_PICl	Between Groups	26,098	1	26,098	5,402	,021
	Within Groups	884,140	183	4,831		
	Total	910,238	184			
Sense of coherence subscale_PICl	Between Groups	107,592	1	107,592	14,225	,000
	Within Groups	1391,741	184	7,564		
	Total	1499,333	185			
Creative Self-Concept subscale_PICl	Between Groups	123,712	1	123,712	13,555	,000
	Within Groups	1679,347	184	9,127		
	Total	1803,059	185			
Sense of Self-Growth subscale_PICl	Between Groups	94,932	1	94,932	13,291	,000
	Within Groups	1321,335	185	7,142		
	Total	1416,267	186			
Change and Challenge orient. subscale_PICl	Between Groups	110,994	1	110,994	11,674	,001
	Within Groups	1758,921	185	9,508		
	Total	1869,914	186			
Social monitoring capac. subscale_PICl	Between Groups	79,429	1	79,429	9,349	,003
	Within Groups	1563,195	184	8,496		
	Total	1642,624	185			
Problem solving capac. subscale_PICl	Between Groups	3,889	1	3,889	,445	,506
	Within Groups	1609,062	184	8,745		
	Total	1612,952	185			
Self-Efficacy subscale_PICl	Between Groups	,130	1	,130	,022	,883
	Within Groups	1113,336	185	6,018		
	Total	1113,465	186			
Social mobilizing capac. subscale_PICl	Between Groups	25,302	1	25,302	3,164	,077
	Within Groups	1479,436	185	7,997		
	Total	1504,738	186			
Social creation capac. subscale_PICl	Between Groups	1,989	1	1,989	,272	,602
	Within Groups	1351,829	185	7,307		

	Total	1353,818	186			
Synchronicity subscale_PICl	Between Groups	16,026	1	16,026	1,817	,179
	Within Groups	1614,439	183	8,822		
	Total	1630,465	184			
Goal orientation subscale_PICl	Between Groups	23,920	1	23,920	3,737	,055
	Within Groups	1184,240	185	6,401		
	Total	1208,160	186			
Impulse control subscale_PICl	Between Groups	30,229	1	30,229	4,386	,038
	Within Groups	1268,250	184	6,893		
	Total	1298,478	185			
Emotional control subscale_PICl	Between Groups	264,862	1	264,862	29,284	,000
	Within Groups	1673,234	185	9,045		
	Total	1938,096	186			
Irritability control subscale_PICl	Between Groups	198,887	1	198,887	25,371	,000
	Within Groups	1450,215	185	7,839		
	Total	1649,102	186			

Table 62: Robust Tests of Equality of Means

		Statistic(a)	df1	df2	Sig.
Positive thinking subscale_PICl	Welch	16,468	1	176,892	,000
Sense of control subscale_PICl	Welch	5,469	1	177,530	,020
Creative Self-Concept subscale_PICl	Welch	14,458	1	182,077	,000
Sense of Self-Growth subscale_PICl	Welch	13,675	1	183,061	,000
Change and Challenge orient. subscale_PICl	Welch	13,494	1	182,041	,000
Social monitoring capac. subscale_PICl	Welch	11,754	1	184,956	,001
Problem solving capac. subscale_PICl	Welch	9,504	1	177,551	,002
Self-Efficacy subscale_PICl	Welch	,458	1	172,709	,500
Social mobilizing capac. subscale_PICl	Welch	,022	1	184,807	,883
Social creation capac. subscale_PICl	Welch	3,210	1	182,426	,075
Synchronicity subscale_PICl	Welch	,274	1	185,000	,601
Goal orientation subscale_PICl	Welch	1,843	1	180,615	,176
Impulse control subscale_PICl	Welch	3,802	1	180,577	,053
Emotional control subscale_PICl	Welch	4,501	1	175,739	,035
Irritability control subscale_PICl	Welch	29,879	1	178,263	,000
Inflamableness subscale_PICl	Welch	25,786	1	181,371	,000

a. Asymptotically F distributed.

Section 19: The 3 subgroups of the PICl and Nationality

```

ONEWAY
  appbelief moncreatexec selfreg BY country
  /STATISTICS HOMOGENEITY WELCH
  /MISSING ANALYSIS .

```

Table 63: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Approach-Belief System	7,728	1	182	,006
Monitoring-Creating Executing System	6,015	1	182	,015
Self-Regulating System	7,567	1	182	,007

Table 64: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Approach-Belief System	Between Groups	645,077	1	645,077	10,407	,001
	Within Groups	11280,787	182	61,982		
	Total	11925,864	183			
Monitoring-Creating Executing System	Between Groups	2021,983	1	2021,983	8,094	,005
	Within Groups	45468,430	182	249,827		
	Total	47490,413	183			
Self-Regulating System	Between Groups	1473,333	1	1473,333	19,509	,000
	Within Groups	13745,080	182	75,522		
	Total	15218,413	183			

Table 65: Robust Tests of Equality of Means

		Statistic(a)	df1	df2	Sig.
Approach-Belief System	Welch	10,579	1	175,945	,001
Monitoring-Creating Executing System	Welch	8,196	1	179,131	,005
Self-Regulating System	Welch	20,054	1	172,716	,000

a. Asymptotically F distributed.

Section 20a: Correlations between 3 PICI subgroups and burnout for Hungarian nurses

```
USE ALL.
COMPUTE filter_$=(country = 1).
VARIABLE LABEL filter_$ 'country = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
CORRELATIONS
/VARIABLES=ee dp pa appbelief moncreatexec selfreg
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE .
```

Table 66: Correlations

		Emotion al exhausti on_mbi	Deperso nalizatio n_mbi	Personal accomplish ment_mbi	Approach- Belief System	Monitoring- Creating Executing System	Self- Regulating System
Emotional exhaustion_m bi	Pearson Correlation	1	,700(**)	-,179	-,463(**)	-,349(**)	-,379(**)
	Sig. (2-tailed)		,000	,079	,000	,001	,000
	N	97	97	97	95	95	96
Depersonaliz ation_mbi	Pearson Correlation	,700(**)	1	-,068	-,501(**)	-,507(**)	-,278(**)

	Sig. (2-tailed)	,000		,507	,000	,000	,006
	N	97	97	97	95	95	96
Personal accomplishment_mbi	Pearson Correlation	-,179	-,068	1	,260(*)	,145	,172
	Sig. (2-tailed)	,079	,507		,011	,160	,095
	N	97	97	97	95	95	96
Approach-Belief System	Pearson Correlation	-,463(**)	-,501(**)	,260(*)	1	,604(**)	,680(**)
	Sig. (2-tailed)	,000	,000	,011		,000	,000
	N	95	95	95	95	94	95
Monitoring-Creating Executing System	Pearson Correlation	-,349(**)	-,507(**)	,145	,604(**)	1	,285(**)
	Sig. (2-tailed)	,001	,000	,160	,000		,005
	N	95	95	95	94	95	94
Self-Regulating System	Pearson Correlation	-,379(**)	-,278(**)	,172	,680(**)	,285(**)	1
	Sig. (2-tailed)	,000	,006	,095	,000	,005	
	N	96	96	96	95	94	96

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Section 20b: Correlations between 3 PICI subgroups and burnout for Swedish nurses

```
USE ALL.
COMPUTE filter_$=(country = 2).
VARIABLE LABEL filter_$ 'country = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
CORRELATIONS
/VARIABLES=ee dp pa appbelief moncreatexec selfreg
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE .
```

Table 67: Correlations

		Emotional exhaustion_mbi	Depersonalization_mbi	Personal accomplishment_mbi	Approach-Belief System	Monitoring-Creating Executing System	Self-Regulating System
Emotional exhaustion_mbi	Pearson Correlation	1	,330(**)	-,254(*)	-,325(**)	-,198	-,458(**)
	Sig. (2-tailed)		,002	,016	,002	,063	,000
	N	90	90	90	89	89	88
Depersonalization_mbi	Pearson Correlation	,330(**)	1	,009	,094	,106	,056
	Sig. (2-tailed)	,002		,936	,383	,323	,606
	N	90	90	90	89	89	88
Personal accomplishment_mbi	Pearson Correlation	-,254(*)	,009	1	,455(**)	,489(**)	,395(**)
	Sig. (2-tailed)	,016	,936		,000	,000	,000

	N	90	90	90	89	89	88
Approach-Belief System	Pearson Correlation	-,325(**)	,094	,455(**)	1	,761(**)	,612(**)
	Sig. (2-tailed)	,002	,383	,000		,000	,000
	N	89	89	89	89	88	87
Monitoring-Creating Executing System	Pearson Correlation	-,198	,106	,489(**)	,761(**)	1	,513(**)
	Sig. (2-tailed)	,063	,323	,000	,000		,000
	N	89	89	89	88	89	87
Self-Regulating System	Pearson Correlation	-,458(**)	,056	,395(**)	,612(**)	,513(**)	1
	Sig. (2-tailed)	,000	,606	,000	,000	,000	
	N	88	88	88	87	87	88

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Section 21: ANOVA for Social support and Nationality

```

ONEWAY
fam fri so ss BY country
/STATISTICS DESCRIPTIVES HOMOGENEITY WELCH
/MISSING ANALYSIS .

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Table 68: Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
Family subscale_ social support questionnaire	Hungarian	97	5,9485	1,24423	,12633	5,6977	6,1992	1,00	7,00
	Swedish	89	6,1966	1,08350	,11485	5,9684	6,4249	1,00	7,00
	Total	186	6,0672	1,17355	,08605	5,8974	6,2370	1,00	7,00
Friends subscale_ social support questionnaire	Hungarian	97	5,8325	1,16129	,11791	5,5984	6,0665	1,00	7,00
	Swedish	90	6,0111	,97577	,10285	5,8067	6,2155	2,75	7,00
	Total	187	5,9184	1,07687	,07875	5,7631	6,0738	1,00	7,00
Significant other subscale_ social support questionnaire	Hungarian	97	6,0773	1,15659	,11743	5,8442	6,3104	1,00	7,00
	Swedish	90	6,2278	1,28989	,13597	5,9576	6,4979	1,00	7,00
	Total	187	6,1497	1,22157	,08933	5,9735	6,3260	1,00	7,00
Social support questionnaire	Hungarian	97	5,9527	1,01164	,10272	5,7489	6,1566	1,00	7,00
	Swedish	89	6,1451	,97770	,10364	5,9392	6,3511	2,25	7,00
	Total	186	6,0448	,99752	,07314	5,9005	6,1891	1,00	7,00

Table 69: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Family subscale_ social support questionnaire	1,573	1	184	,211
Friends subscale_ social support questionnaire	,187	1	185	,666
Significant other subscale_ social support questionnaire	,152	1	185	,697
Social support questionnaire	,017	1	184	,898

Table 70: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Family subscale_ social support questionnaire	Between Groups	2,859	1	2,859	2,088	,150
	Within Groups	251,926	184	1,369		
	Total	254,785	185			
Friends subscale_ social support questionnaire	Between Groups	1,490	1	1,490	1,287	,258
	Within Groups	214,204	185	1,158		
	Total	215,694	186			
Significant other subscale_ social support questionnaire	Between Groups	1,057	1	1,057	,707	,401
	Within Groups	276,501	185	1,495		
	Total	277,557	186			
Social support questionnaire	Between Groups	1,718	1	1,718	1,733	,190
	Within Groups	182,367	184	,991		
	Total	184,085	185			

Table 71: Robust Tests of Equality of Means

		Statistic(a)	df1	df2	Sig.
Family subscale_ social support questionnaire	Welch	2,113	1	183,512	,148
Friends subscale_ social support questionnaire	Welch	1,303	1	183,240	,255
Significant other subscale_ social support questionnaire	Welch	,701	1	178,976	,403
Social support questionnaire	Welch	1,738	1	183,496	,189

a. Asymptotically F distributed.

Section 22: Regression analysis for Emotional Exhaustion and all variables

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ee
/METHOD=STEPWISE age wkcppl edu_years partner morechildren worksalot
workedalot married country ls fam fri so ss posthink control coher selfconc
selfgrow chanchall socmonit probsolv selfeffi socmob socreat synchron
goalorient impuls emotion irritability death confldoc colleag relpat workpriv
patrel unprepinexp workload stresstask ws .

```

Table 72: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Work stress sum		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	Emotional control subscale_PICl		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	Creative Self-Concept subscale_PICl		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
4	Married		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: Emotional exhaustion_mbi

Table 73: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,528(a)	,279	,275	8,86540
2	,610(b)	,373	,365	8,29309
3	,644(c)	,415	,405	8,03322
4	,663(d)	,440	,427	7,88013

a Predictors: (Constant), Work stress sum

b Predictors: (Constant), Work stress sum, Emotional control subscale_PICl

c Predictors: (Constant), Work stress sum, Emotional control subscale_PICl, Creative Self-Concept subscale_PICl

d Predictors: (Constant), Work stress sum, Emotional control subscale_PICl, Creative Self-Concept subscale_PICl, Married

Table 74: ANOVA(e)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5349,057	1	5349,057	68,058	,000(a)
	Residual	13832,763	176	78,595		
	Total	19181,820	177			
2	Regression	7146,132	2	3573,066	51,953	,000(b)
	Residual	12035,688	175	68,775		
	Total	19181,820	177			
3	Regression	7953,141	3	2651,047	41,081	,000(c)
	Residual	10742,679	173	62,096		
	Total	19181,820	177			

a Predictors: (Constant), Work stress sum

b Predictors: (Constant), Work stress sum, Emotional control subscale_PICl

c Predictors: (Constant), Work stress sum, Emotional control subscale_PICl, Creative Self-Concept subscale_PICl

d Predictors: (Constant), Work stress sum, Emotional control subscale_PICl, Creative Self-Concept subscale_PICl, Married

e Dependent Variable: Emotional exhaustion_mbi

Table 75: Coefficients(a)

Model	Unstandardized Coefficients		Standardized Coefficients	t		Sig.
	B	Std. Error	Beta	B	Std. Error	
1	(Constant)	-3,718	2,664			
				-1,396	,165	

2	Work stress sum	,201	,024	,528	8,250	,000
	(Constant)	14,944	4,420		3,381	,001
	Work stress sum	,157	,024	,413	6,465	,000
3	Emotional control subscale_PICl	-1,053	,206	-,327	-5,112	,000
	(Constant)	23,738	4,951		4,794	,000
	Work stress sum	,152	,024	,399	6,434	,000
4	Emotional control subscale_PICl	-,867	,206	-,269	-4,199	,000
	Creative Self-Concept subscale_PICl	-,708	,200	-,215	-3,536	,001
	(Constant)	24,282	4,861		4,995	,000
	Work stress sum	,154	,023	,403	6,624	,000
	Emotional control subscale_PICl	-,831	,203	-,258	-4,096	,000
	Creative Self-Concept subscale_PICl	-,690	,197	-,209	-3,508	,001
	Married	-3,341	1,194	-,160	-2,798	,006

a Dependent Variable: Emotional exhaustion_mbi

Table 76: Excluded Variables(e)

		Table 10: Extended Variables				
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	-,116(a)	-1,791	,075	-,134	,969
	Number of years at the current workplace	-,107(a)	-1,659	,099	-,124	,980
	Years spent in education	-,102(a)	-1,467	,144	-,110	,840
	Partner	-,129(a)	-2,021	,045	-,151	,995
	More than 1 child	-,122(a)	-1,922	,056	-,144	,997
	Works at least 40 hours	,134(a)	2,008	,046	,150	,908
	More than 5 years worked as a nurse	-,043(a)	-,675	,501	-,051	,994
	Married	-,188(a)	-3,006	,003	-,222	1,000
	country	-,255(a)	-3,652	,000	-,266	,788
	Is	-,246(a)	-3,844	,000	-,279	,930
	Family subscale_ social support questionnaire	-,159(a)	-2,509	,013	-,186	,996
	Friends subscale_ social support questionnaire	-,182(a)	-2,902	,004	-,214	1,000
	Significant other subscale_ social support questionnaire	-,147(a)	-2,318	,022	-,173	1,000
	Social support questionnaire	-,188(a)	-2,998	,003	-,221	,999
	Positive thinking subscale_PICl	-,310(a)	-5,021	,000	-,355	,944
	Sense of control subscale_PICl	-,173(a)	-2,759	,006	-,204	1,000
	Sense of coherence subscale_PICl	-,275(a)	-4,375	,000	-,314	,937
	Creative Self-Concept subscale_PICl	-,280(a)	-4,556	,000	-,326	,974
	Sense of Self-Growth subscale_PICl	-,286(a)	-4,531	,000	-,324	,926

2	Change and Challenge orient. subscale_PICl	-,193(a)	-3,045	,003	-,224	,971
	Social monitoring capac. subscale_PICl	-,132(a)	-2,073	,040	-,155	,997
	Problem solving capac. subscale_PICl	-,161(a)	-2,509	,013	-,186	,966
	Self-Efficacy subscale_PICl	-,156(a)	-2,419	,017	-,180	,954
	Social mobilizing capac. subscale_PICl	-,199(a)	-3,181	,002	-,234	,994
	Social creation capac. subscale_PICl	-,139(a)	-2,193	,030	-,164	1,000
	Synchronicity subscale_PICl	-,238(a)	-3,654	,000	-,266	,901
	Goal orientation subscale_PICl	-,246(a)	-3,982	,000	-,288	,987
	Impulse control subscale_PICl	-,165(a)	-2,602	,010	-,193	,992
	Emotional control subscale_PICl	-,327(a)	-5,112	,000	-,360	,877
	Irritability control subscale_PICl	-,278(a)	-4,318	,000	-,310	,895
	Death, dying	-,054(a)	-,486	,628	-,037	,333
	Conflicts with doctors	,132(a)	1,030	,305	,078	,248
	Problems with colleagues	-,103(a)	-,977	,330	-,074	,369
	Relationship with patients	,013(a)	,139	,890	,010	,485
	Work and private life	-,218(a)	-2,687	,008	-,199	,600
	Relationship with the patient's relatives	-,075(a)	-,626	,532	-,047	,286
	Being unprepared and feeling inexperienced	,058(a)	,553	,581	,042	,373
	Workload	,048(a)	,363	,717	,027	,235
	Stress related to tasks	,203(a)	1,535	,127	,115	,232
	Age	-,058(b)	-,934	,352	-,071	,933
	Number of years at the current workplace	-,073(b)	-1,199	,232	-,091	,968
	Years spent in education	-,057(b)	-,868	,386	-,066	,824
	Partner	-,117(b)	-1,959	,052	-,147	,994
	More than 1 child	-,096(b)	-1,601	,111	-,121	,989
	Works at least 40 hours	,097(b)	1,533	,127	,115	,895
	More than 5 years worked as a nurse	-,024(b)	-,402	,688	-,030	,990
	Married	-,166(b)	-2,828	,005	-,210	,995
	country	-,184(b)	-2,694	,008	-,200	,745
	Is	-,167(b)	-2,620	,010	-,195	,851
	Family subscale_ social support questionnaire	-,117(b)	-1,951	,053	-,146	,975
	Friends subscale_ social support questionnaire	-,120(b)	-1,962	,051	-,147	,950
	Significant other subscale_ social support questionnaire	-,118(b)	-1,983	,049	-,149	,991

3	Social support questionnaire	-,138(b)	-2,300	,023	-,172	,968
	Positive thinking subscale_PICl	-,215(b)	-3,233	,001	-,238	,771
	Sense of control subscale_PICl	-,142(b)	-2,394	,018	-,179	,988
	Sense of coherence subscale_PICl	-,180(b)	-2,726	,007	-,202	,796
	Creative Self-Concept subscale_PICl	-,215(b)	-3,536	,001	-,259	,911
	Sense of Self-Growth subscale_PICl	-,188(b)	-2,815	,005	-,209	,774
	Change and Challenge orient. subscale_PICl	-,122(b)	-1,951	,053	-,146	,907
	Social monitoring capac. subscale_PICl	-,110(b)	-1,839	,068	-,138	,992
	Problem solving capac. subscale_PICl	-,112(b)	-1,818	,071	-,137	,938
	Self-Efficacy subscale_PICl	-,109(b)	-1,764	,079	-,133	,929
	Social mobilizing capac. subscale_PICl	-,142(b)	-2,351	,020	-,175	,953
	Social creation capac. subscale_PICl	-,067(b)	-1,082	,281	-,082	,938
	Synchronicity subscale_PICl	-,126(b)	-1,822	,070	-,137	,745
	Goal orientation subscale_PICl	-,146(b)	-2,243	,026	-,168	,827
	Impulse control subscale_PICl	-,062(b)	-,964	,336	-,073	,864
	Emotional control subscale_PICl	-,139(b)	-1,817	,071	-,136	,603
	Death, dying	-,184(b)	-1,736	,084	-,130	,316
	Conflicts with doctors	,108(b)	,898	,371	,068	,247
	Problems with colleagues	-,024(b)	-,237	,813	-,018	,360
	Relationship with patients	-,029(b)	-,333	,740	-,025	,481
	Work and private life	-,127(b)	-1,591	,114	-,120	,562
	Relationship with the patient's relatives	-,054(b)	-,482	,630	-,037	,286
	Being unprepared and feeling inexperienced	,069(b)	,699	,486	,053	,372
	Workload	,121(b)	,976	,330	,074	,232
	Stress related to tasks	,108(b)	,860	,391	,065	,227
	age	-,030(c)	-,492	,623	-,037	,916
	Number of years at the current workplace	-,055(c)	-,926	,356	-,070	,960
	Years spent in education	-,027(c)	-,425	,671	-,032	,809
	Partner	-,100(c)	-1,716	,088	-,129	,986
	More than 1 child	-,090(c)	-1,553	,122	-,117	,988
	Works at least 40 hours	,082(c)	1,332	,185	,101	,890
	More than 5 years worked as a nurse	,005(c)	,079	,937	,006	,970

Married	-,160(c)	-2,798	,006	-,208	,993
country	-,146(c)	-2,155	,033	-,162	,721
Is	-,097(c)	-1,439	,152	-,109	,730
Family subscale_ social support questionnaire	-,055(c)	-,883	,378	-,067	,870
Friends subscale_ social support questionnaire	-,072(c)	-1,174	,242	-,089	,892
Significant other subscale_ social support questionnaire	-,063(c)	-1,040	,300	-,079	,906
Social support questionnaire	-,076(c)	-1,221	,224	-,092	,857
Positive thinking subscale_PICl	-,114(c)	-1,354	,177	-,102	,475
Sense of control subscale_PICl	-,065(c)	-1,006	,316	-,076	,803
Sense of coherence subscale_PICl	-,089(c)	-1,192	,235	-,090	,607
Sense of Self-Growth subscale_PICl	-,109(c)	-1,506	,134	-,114	,637
Change and Challenge orient. subscale_PICl	-,032(c)	-,472	,637	-,036	,728
Social monitoring capac. subscale_PICl	,017(c)	,239	,811	,018	,649
Problem solving capac. subscale_PICl	-,001(c)	-,016	,987	-,001	,681
Self-Efficacy subscale_PICl	,046(c)	,589	,557	,045	,549
Social mobilizing capac. subscale_PICl	-,041(c)	-,582	,561	-,044	,676
Social creation capac. subscale_PICl	,058(c)	,832	,406	,063	,687
Synchronicity subscale_PICl	-,087(c)	-1,283	,201	-,097	,723
Goal orientation subscale_PICl	-,093(c)	-1,417	,158	-,107	,771
Impulse control subscale_PICl	-,027(c)	-,425	,671	-,032	,841
Emotional control subscale_PICl	-,090(c)	-1,180	,239	-,089	,579
Death, dying	-,152(c)	-1,477	,141	-,112	,314
Conflicts with doctors	,137(c)	1,175	,242	,089	,246
Problems with colleagues	-,026(c)	-,271	,787	-,021	,360
Relationship with patients	-,085(c)	-,995	,321	-,075	,466
Work and private life	-,090(c)	-1,156	,249	-,088	,551
Relationship with the patient's relatives	-,015(c)	-,140	,889	-,011	,283
Being unprepared and feeling inexperienced	,035(c)	,371	,711	,028	,369
Workload	,115(c)	,957	,340	,073	,232
Stress related to tasks	,093(c)	,759	,449	,058	,226

4	Age	,013(d)	,208	,835	,016	,858
	Number of years at the current workplace	-,019(d)	-,325	,746	-,025	,912
	Years spent in education	-,002(d)	-,030	,976	-,002	,792
	Partner	,005(d)	,061	,951	,005	,584
	More than 1 child	-,041(d)	-,671	,503	-,051	,875
	Works at least 40 hours	,055(d)	,896	,371	,068	,865
	More than 5 years worked as a nurse	,017(d)	,293	,770	,022	,965
	country	-,110(d)	-1,607	,110	-,122	,686
	Is	-,065(d)	-,967	,335	-,074	,706
	Family subscale_social support questionnaire	-,035(d)	-,574	,567	-,044	,858
	Friends subscale_social support questionnaire	-,077(d)	-1,287	,200	-,098	,891
	Significant other subscale_social support questionnaire	-,038(d)	-,631	,529	-,048	,884
	Social support questionnaire	-,060(d)	-,966	,335	-,073	,848
	Positive thinking subscale_PICl	-,125(d)	-1,516	,131	-,115	,474
	Sense of control subscale_PICl	-,079(d)	-1,249	,213	-,095	,798
	Sense of coherence subscale_PICl	-,075(d)	-1,027	,306	-,078	,604
	Sense of Self-Growth subscale_PICl	-,095(d)	-1,333	,184	-,101	,633
	Change and Challenge orient. subscale_PICl	-,054(d)	-,800	,425	-,061	,718
	Social monitoring capac. subscale_PICl	,018(d)	,258	,796	,020	,649
	Problem solving capac. subscale_PICl	-,038(d)	-,547	,585	-,042	,657
	Self-Efficacy subscale_PICl	,016(d)	,204	,839	,016	,537
	Social mobilizing capac. subscale_PICl	-,043(d)	-,620	,536	-,047	,676
	Social creation capac. subscale_PICl	,024(d)	,348	,728	,027	,664
	Synchronicity subscale_PICl	-,082(d)	-1,225	,222	-,093	,722
	Goal orientation subscale_PICl	-,063(d)	-,951	,343	-,072	,746
	Impulse control subscale_PICl	-,026(d)	-,418	,676	-,032	,841
	Emotional control subscale_PICl	-,073(d)	-,978	,329	-,074	,575
	Death, dying	-,174(d)	-1,714	,088	-,130	,312
	Conflicts with doctors	,120(d)	1,049	,295	,080	,245
	Problems with colleagues	-,011(d)	-,116	,908	-,009	,359
	Relationship with patients	-,061(d)	-,728	,468	-,055	,461
	Work and private life	-,080(d)	-1,041	,299	-,079	,550

Relationship with the patient's relatives	-,028(d)	-,259	,796	-,020	,282
Being unprepared and feeling inexperienced	,027(d)	,284	,777	,022	,368
Workload	,156(d)	1,314	,191	,100	,229
Stress related to tasks	,044(d)	,360	,719	,027	,221

a Predictors in the Model: (Constant), Work stress sum

b Predictors in the Model: (Constant), Work stress sum, Emotional control subscale_PISI

c Predictors in the Model: (Constant), Work stress sum, Emotional control subscale_PISI, Creative Self-Concept subscale_PICI

d Predictors in the Model: (Constant), Work stress sum, Emotional control subscale_PISI, Creative Self-Concept subscale_PICI, Married

e Dependent Variable: Emotional exhaustion_mbi

Section 23: Regression analysis for Depersonalization and all variables

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT dp

/METHOD=STEPWISE age wkcp1 edu_years partner morechildren worksalot workedalot married country ls fam fri so ss postthink control coher selfconc selfgrow chanchall socmonit probsolv selfeffi socmob socreat synchron goalorient impuls emotion irritability death confldoc colleag relpat workpriv patrel unprepinexp workload stresstask ws .

Table 77: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Creative Self-Concept subscale_PI CI		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	Conflicts with doctors		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	Married		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
4	Goal orientation subscale_PI CI		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: Depersonalization_mbi

Table 78: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,330(a)	,109	,104	4,52328
2	,429(b)	,184	,174	4,34184
3	,481(c)	,231	,218	4,22608
4	,507(d)	,257	,240	4,16539

a Predictors: (Constant), Creative Self-Concept subscale_PICI

b Predictors: (Constant), Creative Self-Concept subscale_PICI, Conflicts with doctors

c Predictors: (Constant), Creative Self-Concept subscale_PICI, Conflicts with doctors, Married

d Predictors: (Constant), Creative Self-Concept subscale_PICI, Conflicts with doctors, Married, Goal orientation subscale_PICI

Table 79: ANOVA(e)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	440,669	1	440,669	21,538	,000(a)
	Residual	3600,972	176	20,460		
	Total	4041,640	177			
2	Regression	742,610	2	371,305	19,696	,000(b)
	Residual	3299,030	175	18,852		
	Total	4041,640	177			
3	Regression	934,046	3	311,349	17,433	,000(c)
	Residual	3107,594	174	17,860		
	Total	4041,640	177			
4	Regression	1040,007	4	260,002	14,985	,000(d)
	Residual	3001,633	173	17,350		
	Total	4041,640	177			

a Predictors: (Constant), Creative Self-Concept subscale_PICl

b Predictors: (Constant), Creative Self-Concept subscale_PICl, Conflicts with doctors

c Predictors: (Constant), Creative Self-Concept subscale_PICl, Conflicts with doctors, Married

d Predictors: (Constant), Creative Self-Concept subscale_PICl, Conflicts with doctors, Married, Goal orientation subscale_PICl

e Dependent Variable: Depersonalization_mbi

Table 80: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	12,601	1,663		7,577	,000
	Creative Self-Concept subscale_PICl	-,500	,108	-,330	-4,641	,000
2	(Constant)	8,011	1,966		4,076	,000
	Creative Self-Concept subscale_PICl	-,453	,104	-,300	-4,361	,000
3	Conflicts with doctors	,260	,065	,275	4,002	,000
	(Constant)	8,763	1,927		4,548	,000
4	Creative Self-Concept subscale_PICl	-,437	,101	-,289	-4,316	,000
	Conflicts with doctors	,255	,063	,270	4,028	,000
	Married	-2,094	,639	-,218	-3,274	,001
	(Constant)	12,636	2,462		5,132	,000
	Creative Self-Concept subscale_PICl	-,349	,106	-,230	-3,284	,001
	Conflicts with doctors	,250	,062	,265	4,012	,000
	Married	-1,793	,642	-,187	-2,794	,006
	Goal orientation subscale_PICl	-,325	,132	-,176	-2,471	,014

a Dependent Variable: Depersonalization_mbi

Table 81: Excluded Variables(e)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	-,106(a)	-1,462	,146	-,110	,960
	Number of years at the current workplace	-,024(a)	-,333	,739	-,025	,982
	Years spent in education	-,090(a)	-1,240	,216	-,093	,955
	Partner	-,159(a)	-2,250	,026	-,168	,993
	More than 1 child	-,129(a)	-1,824	,070	-,137	,997
	Works at least 40 hours	,181(a)	2,554	,012	,190	,980

More than 5 years worked as a nurse	,071(a)	,982	,328	,074	,982
Married	-,225(a)	-3,239	,001	-,238	,997
country	-,244(a)	-3,393	,001	-,248	,925
Is	-,009(a)	-,109	,913	-,008	,802
Family subscale_ social support questionnaire	-,033(a)	-,436	,663	-,033	,873
Friends subscale_ social support questionnaire	-,065(a)	-,870	,386	-,066	,917
Significant other subscale_ social support questionnaire	-,097(a)	-1,308	,193	-,098	,910
Social support questionnaire	-,080(a)	-1,044	,298	-,079	,865
Positive thinking subscale_PICl	-,139(a)	-1,471	,143	-,111	,562
Sense of control subscale_PICl	-,059(a)	-,746	,457	-,056	,807
Sense of coherence subscale_PICl	-,208(a)	-2,472	,014	-,184	,698
Sense of Self-Growth subscale_PICl	-,212(a)	-2,630	,009	-,195	,755
Change and Challenge orient. subscale_PICl	-,076(a)	-,930	,354	-,070	,754
Social monitoring capac. subscale_PICl	,006(a)	,063	,949	,005	,657
Problem solving capac. subscale_PICl	-,080(a)	-,930	,354	-,070	,692
Self-Efficacy subscale_PICl	-,044(a)	-,458	,647	-,035	,561
Social mobilizing capac. subscale_PICl	-,111(a)	-1,287	,200	-,097	,680
Social creation capac. subscale_PICl	-,026(a)	-,307	,759	-,023	,706
Synchronicity subscale_PICl	-,146(a)	-1,974	,050	-,148	,915
Goal orientation subscale_PICl	-,223(a)	-3,008	,003	-,222	,880
Impulse control subscale_PICl	-,079(a)	-1,074	,284	-,081	,938
Emotional control subscale_PICl	-,070(a)	-,935	,351	-,071	,915
Irritability control subscale_PICl	-,188(a)	-2,520	,013	-,187	,887
Death, dying	,163(a)	2,309	,022	,172	,987
Conflicts with doctors	,275(a)	4,002	,000	,290	,988
Problems with colleagues	,165(a)	2,332	,021	,174	,989
Relationship with patients	,168(a)	2,318	,022	,173	,938
Work and private life	,129(a)	1,824	,070	,137	,998
Relationship with the patient's relatives	,173(a)	2,460	,015	,183	,994
Being unprepared and feeling inexperienced	,212(a)	2,990	,003	,220	,967
Workload	,236(a)	3,390	,001	,248	,982
Stress related to tasks	,229(a)	3,249	,001	,239	,969

2	Work stress sum	,251(a)	3,603	,000	,263	,974
	Age	-,046(b)	-,643	,521	-,049	,912
	Number of years at the current workplace	,008(b)	,114	,909	,009	,969
	Years spent in education	-,001(b)	-,011	,991	-,001	,857
	Partner	-,186(b)	-2,757	,006	-,205	,985
	More than 1 child	-,103(b)	-1,508	,133	-,114	,987
	Works at least 40 hours	,116(b)	1,623	,106	,122	,911
	More than 5 years worked as a nurse	,043(b)	,625	,533	,047	,972
	Married	-,218(b)	-3,274	,001	-,241	,997
	country	-,154(b)	-1,996	,047	-,150	,773
	Is	,049(b)	,636	,526	,048	,775
	Family subscale_ social support questionnaire	-,039(b)	-,531	,596	-,040	,873
	Friends subscale_ social support questionnaire	-,065(b)	-,910	,364	-,069	,917
	Significant other subscale_ social support questionnaire	-,123(b)	-1,727	,086	-,130	,903
	Social support questionnaire	-,093(b)	-1,271	,206	-,096	,863
	Positive thinking subscale_PICl	-,063(b)	-,669	,504	-,051	,535
	Sense of control subscale_PICl	-,064(b)	-,839	,402	-,064	,807
	Sense of coherence subscale_PICl	-,168(b)	-2,058	,041	-,154	,686
	Sense of Self-Growth subscale_PICl	-,166(b)	-2,101	,037	-,157	,735
	Change and Challenge orient. subscale_PICl	-,043(b)	-,540	,590	-,041	,746
	Social monitoring capac. subscale_PICl	-,016(b)	-,188	,851	-,014	,654
	Problem solving capac. subscale_PICl	-,047(b)	-,571	,569	-,043	,685
	Self-Efficacy subscale_PICl	,001(b)	,010	,992	,001	,552
	Social mobilizing capac. subscale_PICl	-,075(b)	-,903	,368	-,068	,672
	Social creation capac. subscale_PICl	-,058(b)	-,713	,476	-,054	,699
	Synchronicity subscale_PICl	-,081(b)	-1,104	,271	-,083	,861
	Goal orientation subscale_PICl	-,214(b)	-2,998	,003	-,222	,879
	Impulse control subscale_PICl	-,072(b)	-1,017	,311	-,077	,938
	Emotional control subscale_PICl	,020(b)	,260	,795	,020	,829
	Irritability control subscale_PICl	-,112(b)	-1,478	,141	-,111	,810
	Death, dying	-,042(b)	-,446	,656	-,034	,536
	Problems with colleagues	-,037(b)	-,399	,691	-,030	,540
	Relationship with patients	,013(b)	,152	,879	,012	,639

3	Work and private life	,006(b)	,079	,937	,006	,792
	Relationship with the patient's relatives	-,019(b)	-,202	,840	-,015	,549
	Being unprepared and feeling inexperienced	,026(b)	,262	,793	,020	,472
	Workload	,096(b)	1,045	,297	,079	,553
	Stress related to tasks	,059(b)	,590	,556	,045	,465
	Work stress sum	,046(b)	,330	,741	,025	,244
	Age	,013(c)	,181	,857	,014	,853
	Number of years at the current workplace	,061(c)	,876	,382	,066	,920
	Years spent in education	,032(c)	,439	,661	,033	,841
	Partner	-,077(c)	-,885	,377	-,067	,579
	More than 1 child	-,033(c)	-,458	,647	-,035	,873
	Works at least 40 hours	,080(c)	1,138	,257	,086	,886
	More than 5 years worked as a nurse	,061(c)	,908	,365	,069	,966
	country	-,106(c)	-1,379	,170	-,104	,738
	Is	,099(c)	1,285	,201	,097	,748
	Family subscale_ social support questionnaire	-,011(c)	-,149	,882	-,011	,860
	Friends subscale_ social support questionnaire	-,070(c)	-1,004	,317	-,076	,916
	Significant other subscale_ social support questionnaire	-,089(c)	-1,262	,209	-,095	,880
	Social support questionnaire	-,069(c)	-,958	,339	-,073	,853
	Positive thinking subscale_PICl	-,071(c)	-,779	,437	-,059	,535
	Sense of control subscale_PICl	-,083(c)	-1,120	,264	-,085	,802
	Sense of coherence subscale_PICl	-,148(c)	-1,856	,065	-,140	,682
	Sense of Self-Growth subscale_PICl	-,146(c)	-1,885	,061	-,142	,730
	Change and Challenge orient. subscale_PICl	-,070(c)	-,899	,370	-,068	,738
	Social monitoring capac. subscale_PICl	-,016(c)	-,190	,849	-,014	,654
	Problem solving capac. subscale_PICl	-,100(c)	-1,221	,224	-,092	,661
	Self-Efficacy subscale_PICl	-,043(c)	-,472	,637	-,036	,541
	Social mobilizing capac. subscale_PICl	-,077(c)	-,953	,342	-,072	,672
	Social creation capac. subscale_PICl	-,105(c)	-1,304	,194	-,099	,680
	Synchronicity subscale_PICl	-,071(c)	-,993	,322	-,075	,860
	Goal orientation subscale_PICl	-,176(c)	-2,471	,014	-,185	,848
	Impulse control subscale_PICl	-,066(c)	-,965	,336	-,073	,937

4	Emotional control subscale_PICl	,032(c)	,441	,659	,034	,827
	Irritability control subscale_PICl	-,090(c)	-1,215	,226	-,092	,803
	Death, dying	-,054(c)	-,588	,557	-,045	,535
	Problems with colleagues	-,013(c)	-,144	,886	-,011	,537
	Relationship with patients	,042(c)	,506	,614	,038	,632
	Work and private life	,023(c)	,304	,761	,023	,788
	Relationship with the patient's relatives	-,019(c)	-,216	,829	-,016	,549
	Feeling unprepared and unexperienced	,027(c)	,278	,781	,021	,472
	Workload	,129(c)	1,435	,153	,108	,547
	Stress related to tasks	,034(c)	,347	,729	,026	,462
	Work stress sum	,068(c)	,506	,613	,038	,243
	age	,011(d)	,155	,877	,012	,853
	Number of years at the current workplace	,038(d)	,556	,579	,042	,903
	Years spent in education	,044(d)	,617	,538	,047	,837
	Partner	-,059(d)	-,684	,495	-,052	,575
	More than 1 child	-,048(d)	-,677	,499	-,052	,867
	Works at least 40 hours	,081(d)	1,163	,246	,088	,886
	More than 5 years worked as a nurse	,063(d)	,949	,344	,072	,965
	country	-,104(d)	-1,370	,172	-,104	,738
	Is	,113(d)	1,494	,137	,113	,744
	Family subscale_ social support questionnaire	,014(d)	,189	,850	,014	,844
	Friends subscale_ social support questionnaire	-,053(d)	-,776	,439	-,059	,907
	Significant other subscale_ social support questionnaire	-,051(d)	-,707	,481	-,054	,829
	Social support questionnaire	-,037(d)	-,509	,611	-,039	,822
	Positive thinking subscale_PICl	-,028(d)	-,311	,756	-,024	,514
	Sense of control subscale_PICl	-,069(d)	-,942	,348	-,072	,797
	Sense of coherence subscale_PICl	-,084(d)	-,968	,334	-,074	,574
	Sense of Self-Growth subscale_PICl	-,090(d)	-1,100	,273	-,084	,640
	Change and Challenge orient. subscale_PICl	-,040(d)	-,522	,602	-,040	,719
	Social monitoring capac. subscale_PICl	-,005(d)	-,066	,947	-,005	,652
	Problem solving capac. subscale_PICl	-,094(d)	-1,172	,243	-,089	,660
	Self-Efficacy subscale_PICl	,020(d)	,220	,826	,017	,498
	Social mobilizing capac. subscale_PICl	-,075(d)	-,940	,349	-,071	,672

Social creation capac. subscale_PICl	-,087(d)	-1,095	,275	-,083	,674
Synchronicity subscale_PICl	,006(d)	,072	,942	,006	,698
Impulse control subscale_PICl	-,001(d)	-,014	,989	-,001	,794
Emotional control subscale_PICl	,109(d)	1,415	,159	,107	,724
Irritability control subscale_PICl	-,045(d)	-,596	,552	-,045	,746
Death, dying	-,082(d)	-,908	,365	-,069	,527
Problems with colleagues	,009(d)	,097	,923	,007	,532
Relationship with patients	,026(d)	,312	,756	,024	,627
Work and private life	,004(d)	,059	,953	,004	,780
Relationship with the patient's relatives	-,036(d)	-,409	,683	-,031	,546
Being unprepared and feeling inexperienced	,051(d)	,527	,599	,040	,467
Workload	,120(d)	1,356	,177	,103	,546
Stress related to tasks	-,001(d)	-,006	,995	,000	,452
Work stress sum	,043(d)	,324	,746	,025	,242

a Predictors in the Model: (Constant), Creative Self-Concept subscale_PICl

b Predictors in the Model: (Constant), Creative Self-Concept subscale_PICl, Conflicts with doctors

c Predictors in the Model: (Constant), Creative Self-Concept subscale_PICl, Conflicts with doctors, Married

d Predictors in the Model: (Constant), Creative Self-Concept subscale_PICl, Conflicts with doctors, Married, Goal orientation subscale_PICl

e Dependent Variable: Depersonalization_mbi

Section 24: Regression analysis for Personal Accomplishment and all variables

REGRESSION

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/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT pa
/METHOD=STEPWISE age wkcp1 edu_years partner morechildren worksalot
workedalot married country ls fam fri so ss posthink control coher selfconc
selfgrow chanchall socmonit probsolv selfeffi socmob socreat synchron
goalorient impuls emotion irritability death confidoc colleag relpat workpriv
patrel unprepinexp workload stresstask ws .

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Table 82: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Sense of Self-Growth subscale_PICl		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	country		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

3	Problem solving capac. subscale_PICl	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
4	Death, dying	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
5	Emotional control subscale_PICl	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
6	Workload	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
7	Relationship with patients	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: Personal accomplishment_mbi

Table 83: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,441(a)	,195	,190	6,75674
2	,530(b)	,281	,273	6,40345
3	,557(c)	,310	,298	6,28942
4	,583(d)	,340	,325	6,16791
5	,604(e)	,365	,347	6,06849
6	,622(f)	,387	,365	5,98211
7	,640(g)	,410	,386	5,88320

a Predictors: (Constant), Sense of Self-Growth subscale_PICl

b Predictors: (Constant), Sense of Self-Growth subscale_PICl, country

c Predictors: (Constant) Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl

d Predictors: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying

e Predictors: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying, Emotional control subscale_PICl

f Predictors: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying, Emotional control subscale_PICl, Workload

g Predictors: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying, Emotional control subscale_PICl, Workload, Relationship with patients

Table 84: ANOVA(h)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1941,707	1	1941,707	42,531	,000(a)
	Residual	8035,017	176	45,654		
	Total	9976,725	177			
2	Regression	2800,999	2	1400,499	34,155	,000(b)
	Residual	7175,726	175	41,004		
	Total	9976,725	177			
3	Regression	3093,847	3	1031,282	26,071	,000(c)
	Residual	6882,878	174	39,557		
	Total	9976,725	177			
4	Regression	3395,268	4	848,817	22,312	,000(d)
	Residual	6581,456	173	38,043		
	Total	9976,725	177			
5	Regression	3642,552	5	728,510	19,782	,000(e)

6	Residual	6334,172	172	36,827		
	Total	9976,725	177			
	Regression	3857,372	6	642,895	17,965	,000(f)
7	Residual	6119,353	171	35,786		
	Total	9976,725	177			
	Regression	4092,686	7	584,669	16,892	,000(g)
	Residual	5884,039	170	34,612		
	Total	9976,725	177			

a Predictors: (Constant), Sense of Self-Growth subscale_PIC1

b Predictors: (Constant), Sense of Self-Growth subscale_PIC1, country

c Predictors: (Constant), Sense of Self-Growth subscale_PIC1, country, Problem solving capac. subscale_PIC1

d Predictors: (Constant), Sense of Self-Growth subscale_PIC1, country, Problem solving capac. subscale_PIC1, Death, dying

e Predictors: (Constant), Sense of Self-Growth subscale_PIC1, country, Problem solving capac. subscale_PIC1, Death, dying, Emotional control subscale_PIS1

f Predictors: (Constant), Sense of Self-Growth subscale_PIC1, country, Problem solving capac. subscale_PIC1, Death, dying, Emotional control subscale_PIS1, Workload

g Predictors: (Constant), Sense of Self-Growth subscale_PIC1, Problem solving capac. subscale_PIC1, Death, dying, Emotional control subscale_PIS1, Workload, Relationship with patients

h Dependent Variable: Personal accomplishment_mbi

Table 85: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	16,326	2,902		5,626	,000
	Sense of Self-Growth subscale_PIC1	1,208	,185	,441	6,522	,000
2	(Constant)	12,929	2,849		4,539	,000
	Sense of Self-Growth subscale_PIC1	,993	,182	,363	5,469	,000
3	country	4,555	,995	,304	4,578	,000
	(Constant)	8,068	3,320		2,430	,016
	Sense of Self-Growth subscale_PIC1	,905	,181	,331	4,993	,000
	country	4,517	,977	,301	4,621	,000
4	Problem solving capac. subscale_PIC1	,448	,164	,174	2,721	,007
	(Constant)	-,050	4,349		-,012	,991
	Sense of Self-Growth subscale_PIC1	,959	,179	,350	5,361	,000
	country	5,918	1,080	,395	5,479	,000
	Problem solving capac. subscale_PIC1	,459	,161	,179	2,846	,005
	Death, dying	,412	,146	,201	2,815	,005
5	(Constant)	-3,028	4,431		-,683	,495
	Sense of Self-Growth subscale_PIC1	,776	,190	,283	4,091	,000
	country	5,532	1,073	,369	5,155	,000
	Problem solving capac. subscale_PIC1	,395	,161	,154	2,458	,015
	Death, dying	,515	,149	,251	3,446	,001
	Emotional control subscale_PIC1	,451	,174	,194	2,591	,010
6	(Constant)	,762	4,634		,165	,870
	Sense of Self-Growth subscale_PIC1	,703	,189	,257	3,715	,000
	country	5,045	1,076	,336	4,687	,000
	Problem solving capac. subscale_PIC1	,342	,160	,133	2,140	,034
	Death, dying	,779	,182	,380	4,268	,000

7	Emotional control subscale_PICl	,515	,173	,222	2,972	,003
	Workload	-,289	,118	-,208	-2,450	,015
	(Constant)	-1,821	4,663		-,391	,697
	Sense of Self-Growth subscale_PICl	,737	,187	,269	3,952	,000
	Country	3,998	1,132	,267	3,531	,001
	Problem solving capac. subscale_PICl	,468	,164	,182	2,845	,005
	Death, dying	,618	,190	,301	3,253	,001
	Emotional control subscale_PICl	,569	,172	,245	3,311	,001
	Workload	-,403	,124	-,290	-3,250	,001
	Relationship with patients	,498	,191	,216	2,607	,010

a. Dependent Variable: Personal accomplishment_mbi

Table 86: Excluded Variables(h)

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1					
age	,136(a)	2,027	,044	,151	1,000
Number of years at the current workplace	,164(a)	2,459	,015	,183	1,000
Years spent in education	,199(a)	2,926	,004	,216	,947
Partner	,092(a)	1,362	,175	,102	,987
More than 1 child	,159(a)	2,372	,019	,177	,996
Works at least 40 hours	-,166(a)	-2,462	,015	-,183	,978
More than 5 years worked as a nurse	,055(a)	,816	,416	,062	,995
Married	,067(a)	,984	,327	,074	,990
country	,304(a)	4,578	,000	,327	,934
Is	,250(a)	3,355	,001	,246	,776
Family subscale_ social support questionnaire	,025(a)	,342	,733	,026	,884
Friends subscale_ social support questionnaire	,089(a)	1,255	,211	,094	,899
Significant other subscale_ social support questionnaire	,000(a)	,007	,995	,001	,876
Social support questionnaire	,045(a)	,604	,546	,046	,846
Positive thinking subscale_PICl	,133(a)	1,751	,082	,131	,784
Sense of control subscale_PICl	,067(a)	,972	,333	,073	,972
Sense of coherence subscale_PICl	,089(a)	,947	,345	,071	,518
Creative Self-Concept subscale_PICl	,120(a)	1,550	,123	,116	,755
Change and Challenge orient. subscale_PICl	,180(a)	2,519	,013	,187	,872
Social monitoring capac. subscale_PICl	,154(a)	2,289	,023	,170	,983
Problem solving capac. subscale_PICl	,179(a)	2,638	,009	,196	,965

2	Self-Efficacy subscale_PIC1	,109(a)	1,498	,136	,113	,861
	Social mobilizing capac. subscale_PIC1	,135(a)	1,966	,051	,147	,951
	Social creation capac. subscale_PIC1	,163(a)	2,358	,019	,176	,935
	Synchronicity subscale_PIC1	-,156(a)	-1,745	,083	-,131	,570
	Goal orientation subscale_PIC1	-,048(a)	-,628	,531	-,047	,783
	Impulse control subscale_PIC1	-,048(a)	-,646	,519	-,049	,818
	Emotional control subscale_PIC1	,234(a)	3,141	,002	,231	,788
	Irritability control subscale_PIC1	,185(a)	2,522	,013	,187	,825
	Death, dying	,015(a)	,221	,825	,017	,951
	Conflicts with doctors	-,099(a)	-1,441	,151	-,108	,963
	Problems with colleagues	-,083(a)	-1,228	,221	-,092	,989
	Relationship with patients	,104(a)	1,498	,136	,113	,940
	Work and private life	,134(a)	1,990	,048	,149	,986
	Relationship with the patient's relatives	-,026(a)	-,375	,708	-,028	,948
	Being unprepared and feeling inexperienced	-,081(a)	-1,183	,238	-,089	,962
	Workload	-,141(a)	-2,025	,044	-,151	,932
	Stress related to tasks	-,144(a)	-2,017	,045	-,151	,881
	Work stress sum	-,068(a)	-,969	,334	-,073	,926
	Age	-,010(b)	-,139	,889	-,011	,760
	Number of years at the current workplace	,083(b)	1,235	,219	,093	,909
	Years spent in education	-,082(b)	-,794	,428	-,060	,384
	Partner	,046(b)	,701	,484	,053	,961
	More than 1 child	,111(b)	1,718	,088	,129	,967
	Works at least 40 hours	,043(b)	,507	,613	,038	,572
	More than 5 years worked as a nurse	,077(b)	1,199	,232	,091	,990
	Married	,011(b)	,171	,864	,013	,954
	Is	,148(b)	1,900	,059	,143	,670
	Family subscale_ social support questionnaire	,018(b)	,268	,789	,020	,884
	Friends subscale_ social support questionnaire	,095(b)	1,402	,163	,106	,899
	Significant other subscale_ social support questionnaire	,010(b)	,149	,882	,011	,875
	Social support questionnaire	,048(b)	,688	,492	,052	,846
	Positive thinking subscale_PIC1	,076(b)	1,030	,304	,078	,759
	Sense of control subscale_PIC1	,135(b)	2,055	,041	,154	,929
	Sense of coherence subscale_PIC1	,049(b)	,548	,584	,042	,513

3	Creative Self-Concept subscale_PICl	,063(b)	,845	,399	,064	,732
	Change and Challenge orient. subscale_PICl	,130(b)	1,876	,062	,141	,847
	Social monitoring capac. subscale_PICl	,104(b)	1,587	,114	,119	,951
	Problem solving capac. subscale_PICl	,174(b)	2,721	,007	,202	,964
	Self-Efficacy subscale_PICl	,146(b)	2,126	,035	,159	,850
	Social mobilizing capac. subscale_PICl	,108(b)	1,639	,103	,123	,943
	Social creation capac. subscale_PICl	,168(b)	2,577	,011	,192	,935
	Synchronicity subscale_PICl	-,111(b)	-1,299	,196	-,098	,562
	Goal orientation subscale_PICl	-,059(b)	-,820	,413	-,062	,783
	Impulse control subscale_PICl	-,067(b)	-,940	,349	-,071	,815
	Emotional control subscale_PICl	,154(b)	2,062	,041	,154	,727
	Irritability control subscale_PICl	,106(b)	1,444	,150	,109	,765
	Death, dying	,196(b)	2,689	,008	,200	,749
	Conflicts with doctors	,020(b)	,286	,775	,022	,817
	Problems with colleagues	,004(b)	,061	,951	,005	,902
	Relationship with patients	,114(b)	1,736	,084	,130	,939
	Work and private life	,121(b)	1,878	,062	,141	,983
	Relationship with the patient's relatives	,111(b)	1,559	,121	,117	,798
	Being unprepared and feeling inexperienced	,009(b)	,135	,892	,010	,875
	Workload	-,019(b)	-,254	,800	-,019	,773
	Stress related to tasks	,030(b)	,374	,709	,028	,633
	Work stress sum	,072(b)	,988	,325	,075	,763
	age	-,033(c)	-,448	,654	-,034	,750
	Number of years at the current workplace	,060(c)	,897	,371	,068	,892
	Years spent in education	-,057(c)	-,555	,580	-,042	,381
	Partner	,058(c)	,906	,366	,069	,957
	More than 1 child	,092(c)	1,426	,156	,108	,953
	Works at least 40 hours	,045(c)	,544	,587	,041	,572
	More than 5 years worked as a nurse	,038(c)	,576	,566	,044	,932
	Married	,039(c)	,591	,555	,045	,932
	Is	,135(c)	1,758	,080	,133	,667
	Family subscale_ social support questionnaire	,027(c)	,396	,692	,030	,882
	Friends subscale_ social support questionnaire	,074(c)	1,106	,270	,084	,886

4	Significant other subscale_					
	social support questionnaire	,012(c)	,173	,863	,013	,875
	Social support questionnaire					
		,044(c)	,638	,524	,048	,845
	Positive thinking					
	subscale_PICl	,020(c)	,264	,792	,020	,694
	Sense of control					
	subscale_PICl	,069(c)	,940	,348	,071	,737
	Sense of coherence					
	subscale_PICl	,016(c)	,177	,859	,013	,503
	Creative Self-Concept					
	subscale_PICl	-,066(c)	-,751	,454	-,057	,512
	Change and Challenge					
	orient. subscale_PICl	,074(c)	1,017	,310	,077	,745
	Social monitoring capac.					
	subscale_PICl	,035(c)	,491	,624	,037	,777
	Self-Efficacy subscale_PICl					
		,058(c)	,686	,493	,052	,562
	Social mobilizing capac.					
	subscale_PICl	,067(c)	,999	,319	,076	,881
	Social creation capac.					
	subscale_PICl	,087(c)	,954	,341	,072	,479
	Synchronicity subscale_PICl					
		-,113(c)	-1,353	,178	-,102	,562
	Goal orientation					
	subscale_PICl	-,083(c)	-1,156	,249	-,088	,772
	Impulse control					
	subscale_PICl	-,054(c)	-,778	,438	-,059	,812
	Emotional control					
	subscale_PICl	,125(c)	1,686	,094	,127	,710
	Irritability control					
	subscale_PICl	,072(c)	,976	,330	,074	,739
	Death, dying					
		,201(c)	2,815	,005	,209	,748
	Conflicts with doctors					
		,043(c)	,609	,543	,046	,806
	Problems with colleagues					
		,035(c)	,516	,607	,039	,878
	Relationship with patients					
		,180(c)	2,704	,008	,201	,860
	Work and private life					
		,121(c)	1,918	,057	,144	,983
	Relationship with the					
	patient's relatives	,126(c)	1,798	,074	,135	,794
	Beeling unprepared and					
	feeling inexperienced	,046(c)	,672	,502	,051	,843
	Workload					
		,002(c)	,029	,977	,002	,765
	Stress related to tasks					
		,047(c)	,589	,557	,045	,629
	Work stress sum					
		,104(c)	1,435	,153	,108	,746
	age					
		-,031(d)	-,439	,661	-,033	,750
	Number of years at the					
	current workplace	,053(d)	,811	,418	,062	,891
	Years spent in education					
		-,041(d)	-,412	,681	-,031	,380
	Partner					
		,021(d)	,326	,745	,025	,912

More than 1 child	,074(d)	1,168	,244	,089	,943
Works at least 40 hours	,053(d)	,648	,518	,049	,571
More than 5 years worked as a nurse	,023(d)	,364	,716	,028	,926
Married	,027(d)	,428	,670	,033	,929
Is	,120(d)	1,593	,113	,121	,664
Family subscale_ social support questionnaire	,016(d)	,239	,812	,018	,879
Friends subscale_ social support questionnaire	,053(d)	,809	,420	,062	,874
Significant other subscale_ social support questionnaire	-,009(d)	-,138	,891	-,011	,864
Social support questionnaire	,023(d)	,336	,737	,026	,835
Positive thinking subscale_PICl	,006(d)	,079	,937	,006	,691
Sense of control subscale_PICl	,046(d)	,634	,527	,048	,727
Sense of coherence subscale_PICl	,017(d)	,195	,846	,015	,503
Creative Self-Concept subscale_PICl	-,096(d)	-1,104	,271	-,084	,505
Change and Challenge orient. subscale_PICl	,066(d)	,919	,359	,070	,744
Social monitoring capac. subscale_PICl	,009(d)	,133	,894	,010	,763
Self-Efficacy subscale_PICl	,081(d)	,974	,331	,074	,557
Social mobilizing capac. subscale_PICl	,051(d)	,776	,439	,059	,874
Social creation capac. subscale_PICl	,050(d)	,551	,582	,042	,468
Synchronicity subscale_PICl	-,050(d)	-,585	,559	-,045	,514
Goal orientation subscale_PICl	-,075(d)	-1,067	,287	-,081	,771
Impulse control subscale_PICl	-,057(d)	-,835	,405	-,064	,811
Emotional control subscale_PICl	,194(d)	2,591	,010	,194	,659
Irritability control subscale_PICl	,094(d)	1,299	,196	,099	,731
Conflicts with doctors	-,113(d)	-1,321	,188	-,100	,519
Problems with colleagues	-,065(d)	-,875	,383	-,067	,690
Relationship with patients	,109(d)	1,343	,181	,102	,579
Work and private life	,021(d)	,266	,791	,020	,612
Relationship with the patient's relatives	,010(d)	,114	,909	,009	,493
Being unprepared and feeling inexperienced	-,064(d)	-,819	,414	-,062	,635
Workload	-,169(d)	-1,975	,050	-,149	,509

5	Stress related to tasks	-,109(d)	-1,163	,246	-,088	,434
	Work stress sum	-,120(d)	-1,081	,281	-,082	,309
	age	-,062(e)	-,876	,383	-,067	,731
	Number of years at the current workplace	,039(e)	,605	,546	,046	,884
	Years spent in education	-,025(e)	-,252	,801	-,019	,378
	Partner	,026(e)	,412	,681	,032	,911
	More than 1 child	,055(e)	,879	,381	,067	,929
	Works at least 40 hours	,051(e)	,630	,529	,048	,571
	More than 5 years worked as a nurse	,010(e)	,153	,879	,012	,919
	Married	,025(e)	,398	,691	,030	,929
	Is	,102(e)	1,371	,172	,104	,658
	Family subscale_ social support questionnaire	,013(e)	,199	,843	,015	,879
	Friends subscale_ social support questionnaire	,036(e)	,544	,587	,042	,864
	Significant other subscale_ social support questionnaire	,001(e)	,014	,989	,001	,861
	Social support questionnaire	,019(e)	,285	,776	,022	,834
	Positive thinking subscale_PIC1	-,054(e)	-,708	,480	-,054	,632
	Sense of control subscale_PIC1	,035(e)	,486	,627	,037	,725
	Sense of coherence subscale_PIC1	-,018(e)	-,203	,840	-,015	,491
	Creative Self-Concept subscale_PIC1	-,090(e)	-1,048	,296	-,080	,505
	Change and Challenge orient. subscale_PIC1	,051(e)	,723	,471	,055	,739
	Social monitoring capac. subscale_PIC1	,021(e)	,304	,761	,023	,760
	Self-Efficacy subscale_PIC1	,085(e)	1,039	,300	,079	,556
	Social mobilizing capac. subscale_PIC1	,034(e)	,525	,600	,040	,865
	Social creation capac. subscale_PIC1	,027(e)	,301	,764	,023	,464
	Synchronicity subscale_PIC1	-,115(e)	-1,317	,190	-,100	,480
	Goal orientation subscale_PIC1	-,125(e)	-1,768	,079	-,134	,727
	Impulse control subscale_PIC1	-,103(e)	-1,488	,139	-,113	,769
	Emotional control subscale_PIC1	,010(e)	,118	,906	,009	,571
	Conflicts with doctors	-,111(e)	-1,316	,190	-,100	,519
	Problems with colleagues	-,080(e)	-1,089	,278	-,083	,686
	Relationship with patients	,121(e)	1,522	,130	,116	,577
	Work and private life	-,025(e)	-,312	,755	-,024	,581

6	Relationship with the patient's relatives	-,011(e)	-,126	,900	-,010	,489
	Being unprepared and unexperienced	-,070(e)	-,922	,358	-,070	,634
	Workload	-,208(e)	-2,450	,015	-,184	,497
	Stress related to tasks	-,114(e)	-1,241	,216	-,094	,434
	Work stress sum	-,146(e)	-1,332	,185	-,101	,307
	age	-,035(f)	-,495	,621	-,038	,712
	Number of years at the current workplace	,045(f)	,703	,483	,054	,883
	Years spent in education	-,050(f)	-,507	,612	-,039	,374
	Partner	,036(f)	,568	,571	,044	,908
	More than 1 child	,061(f)	,982	,327	,075	,928
	Works at least 40 hours	,065(f)	,812	,418	,062	,569
	More than 5 years worked as a nurse	,036(f)	,572	,568	,044	,893
	Married	,051(f)	,816	,415	,062	,904
	Is	,079(f)	1,063	,289	,081	,645
	Family subscale_ social support questionnaire	,005(f)	,084	,933	,006	,877
	Friends subscale_ social support questionnaire	,022(f)	,346	,729	,027	,858
	Significant other subscale_ social support questionnaire	-,002(f)	-,026	,979	-,002	,861
	Social support questionnaire	,010(f)	,150	,881	,011	,832
	Positive thinking subscale_PICl	-,079(f)	-1,039	,300	-,079	,621
	Sense of control subscale_PICl	,030(f)	,423	,673	,032	,724
	Sense of coherence subscale_PICl	-,044(f)	-,508	,612	-,039	,484
	Creative Self-Concept subscale_PICl	-,066(f)	-,771	,442	-,059	,498
	Change and Challenge orient. subscale_PICl	,044(f)	,632	,528	,048	,737
	Social monitoring capac. subscale_PICl	,042(f)	,610	,543	,047	,749
	Self-Efficacy subscale_PICl	,071(f)	,876	,382	,067	,553
	Social mobilizing capac. subscale_PICl	,036(f)	,561	,575	,043	,865
	Social creation capac. subscale_PICl	,053(f)	,596	,552	,046	,457
	Synchronicity subscale_PICl	-,126(f)	-1,463	,145	-,112	,479
	Goal orientation subscale_PICl	-,110(f)	-1,560	,121	-,119	,720
	Impulse control subscale_PICl	-,115(f)	-1,683	,094	-,128	,765
	Irritability control subscale_PICl	-,023(f)	-,279	,780	-,021	,556
	Conflicts with doctors	-,043(f)	-,476	,634	-,037	,451
	Problems with colleagues	-,002(f)	-,020	,984	-,002	,551

7	Relationship with patients	,216(f)	2,607	,010	,196	,505
	Work and private life	,060(f)	,701	,484	,054	,491
	Relationship with the patients' relatives	,125(f)	1,264	,208	,096	,367
	Being unprepared and feeling inexperienced	-,014(f)	-,174	,862	-,013	,572
	Stress related to tasks	,010(f)	,096	,924	,007	,305
	Work stress sum	,117(f)	,721	,472	,055	,136
	Age	-,010(g)	-,137	,891	-,011	,697
	Number of years at the current workplace	,074(g)	1,165	,246	,089	,859
	Years spent in education	-,075(g)	-,769	,443	-,059	,371
	Partner	,033(g)	,534	,594	,041	,908
	More than 1 child	,082(g)	1,336	,183	,102	,913
	Works at least 40 hours	,059(g)	,759	,449	,058	,568
	More than 5 years worked as a nurse	,067(g)	1,054	,293	,081	,866
	Married	,058(g)	,933	,352	,072	,902
	Is	,083(g)	1,131	,260	,087	,645
	Family subscale _social support questionnaire	,015(g)	,243	,808	,019	,874
	Friends subscale _social support questionnaire	,000(g)	,006	,995	,000	,843
	Significant other subscale _social support questionnaire	-,010(g)	-,164	,870	-,013	,858
	Social support questionnaire	,002(g)	,032	,975	,002	,830
	Positive thinking subscale _PICI	-,068(g)	-,911	,363	-,070	,619
	Sense of control subscale _PICI	,068(g)	,957	,340	,073	,696
	Sense of coherence subscale _PICI	-,052(g)	-,610	,543	-,047	,483
	Creative Self-Concept subscale _PICI	-,040(g)	-,472	,637	-,036	,490
	Change and Challenge orient. subscale _PICI	,027(g)	,395	,693	,030	,731
	Social monitoring capac. subscale _PICI	,054(g)	,797	,427	,061	,746
	Self-Efficacy subscale _PICI	,081(g)	1,026	,306	,079	,552
	Social mobilizing capac. subscale _PICI	,031(g)	,488	,626	,037	,864
	Social creation capac. subscale _PICI	,028(g)	,317	,752	,024	,452
	Synchronicity subscale _PICI	-,101(g)	-,179	,240	-,090	,472
	Goal orientation subscale _PICI	-,110(g)	-,1591	,113	-,121	,720
	Impulse control subscale _PICI	-,093(g)	-,1375	,171	-,105	,752
	Irritability control subscale _PICI	-,023(g)	-,293	,770	-,023	,556
	Conflicts with doctors	-,112(g)	-,1,229	,221	-,094	,419

Problems with colleagues	-,055(g)	-,675	,501	-,052	,518
Work and private life	,042(g)	,502	,616	,039	,488
Relationship with the patient's relatives	,103(g)	1,053	,294	,081	,365
Being unprepared and feeling inexperienced	-,097(g)	-1,171	,243	-,090	,501
Stress related to tasks	-,048(g)	-,442	,659	-,034	,292
Work stress sum	-,153(g)	-,806	,421	-,062	,096

a Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl

b Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl, country

c Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl

d Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying

e Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying, Emotional control subscale_PICl

f Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying, Emotional control subscale_PICl, Workload

g Predictors in the Model: (Constant), Sense of Self-Growth subscale_PICl, country, Problem solving capac. subscale_PICl, Death, dying, Emotional control subscale_PIC, Workload, Relationship with patients

h Dependent Variable: Personal accomplishment_mbi

Section 25: SEM Conceptual model (AMOS Output)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Table 87: Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
ws	<--- country	-1,000				
ls	<--- country	-116,110	366,691	-,317	,752	
Burnout	<--- ws	,025	,016	1,632	,103	
ls	<--- ss	-117,102	381,597	-,307	,759	
Burnout	<--- country	-4,655	,871	-5,342	***	
Burnout	<--- ss	-1,000				
ls	<--- ws	2,253	7,325	,308	,758	
pa	<--- Burnout	-1,000				
dp	<--- Burnout	,435	,056	7,735	***	
ee	<--- Burnout	1,000				
selfreg	<--- PIC	,997	,102	9,739	***	
moncreatexec	<--- PIC	1,632	,184	8,863	***	
appbelief	<--- PIC	1,000				
PIC	<--- ls	1,267	,168	7,545	***	
Burnout	<--- PIC	-1,000				
ls	<--- PIC	37,541	123,343	,304	,761	
ls	<--- Burnout	-1,000				

		Estimate	S.E.	C.R.	P	Label
Burnout	<--- ls	,496	,068	7,285	***	

Table 88: Standardized Regression Weights: (Group number 1 - Default model)

		Estimate
ws	<--- country	-,018
ls	<--- country	-8,466
Burnout	<--- ws	,112
ls	<--- ss	-16,989
Burnout	<--- country	-,369
Burnout	<--- ss	-,158
ls	<--- ws	9,097
pa	<--- Burnout	-,682
dp	<--- Burnout	,581
ee	<--- Burnout	,643
selfreg	<--- PIC	,680
moncreatexec	<--- PIC	,630
appbelief	<--- PIC	,818
PIC	<--- ls	1,432
Burnout	<--- PIC	-,962
ls	<--- PIC	33,212
ls	<--- Burnout	-,920
Burnout	<--- ls	,539

Table 89: Means: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
country	1,481	,037	40,432	***	

Table 90: Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
ss	6,046	,073	82,784	***	
ws	107,850	2,033	53,047	***	
ls	-445,270	1385,443	-,321	,748	
pa	7,283	4,631	1,573	,116	
dp	17,222	2,451	7,028	***	
ee	45,327	4,637	9,775	***	
selfreg	27,634	4,320	6,396	***	
moncreatexec	70,286	7,426	9,465	***	
appbelief	31,421	3,853	8,154	***	

Table 91: Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
country	,250	,026	9,644	***	
e7	765,198	79,557	9,618	***	
e9	,988	,103	9,620	***	
e8	30899,955	204553,083	,151	,880	
e10	4,805	3,588	1,339	,181	
e11	36,341	10,942	3,321	***	

	Estimate	S.E.	C.R.	P	Label
e1	45,625	5,914	7,715	***	
e2	14,762	1,731	8,526	***	
e3	56,459	6,913	8,166	***	
e4	42,378	5,094	8,318	***	
e5	148,493	17,231	8,618	***	
e6	18,109	2,648	6,838	***	

Matrices (Group number 1 - Default model)

Table 92: Factor Score Weights (Group number 1 - Default model)

	country	ss	ws	ls	appbelief	moncreatexec	selfreg	ee	dp	pa
PIC	-,260	,479	-,008	,269		,051	,110	-,066	-,110	,081
Burnout	-3,525	-,194	,027	,183	-,205	-,041	-,087	,120	,200	-,149

Table 93: Total Effects (Group number 1 - Default model)

	country	ss	ws	ls	PIC	Burnout
ws	-1,000	,000	,000	,000	,000	,000
ls	2,401	2,453	-,047	-1,021	-,814	,021
PIC	3,043	3,108	-,060	-,027	-1,032	,027
Burnout	-6,532	-2,891	,062	,016	-,372	-,016
appbelief	3,043	3,108	-,060	-,027	-,032	,027
moncreatexec	4,966	5,072	-,097	-,044	-,052	,044
selfreg	3,033	3,097	-,059	-,027	-,031	,027
ee	-6,532	-2,891	,062	,016	-,372	,984
dp	-2,840	-1,257	,027	,007	-,162	,428
pa	6,532	2,891	-,062	-,016	,372	-,984

Table 94: Standardized Total Effects (Group number 1 - Default model)

	country	ss	ws	ls	PIC	Burnout
ws	-,018	,000	,000	,000	,000	,000
ls	,175	,356	-,190	-1,021	-,720	,019
PIC	,251	,510	-,272	-,030	-1,032	,028
Burnout	-,518	-,456	,271	,018	-,358	-,016
appbelief	,205	,417	-,223	-,025	-,026	,023
moncreatexec	,158	,321	-,172	-,019	-,020	,018
selfreg	,171	,347	-,185	-,021	-,021	,019
ee	-,333	-,293	,174	,011	-,230	,632
dp	-,301	-,265	,157	,010	-,208	,571
pa	,353	,311	-,185	-,012	,244	-,671

Table 95: Direct Effects (Group number 1 - Default model)

	country	ss	ws	ls	PIC	Burnout
ws	-1,000	,000	,000	,000	,000	,000
ls	-116,110	-117,102	2,253	,000	37,541	-1,000

	country	ss	ws	ls	PIC	Burnout
PIC	,000	,000	,000	1,267	,000	,000
Burnout	-4,655	-1,000	,025	,496	-1,000	,000
appbelief	,000	,000	,000	,000	1,000	,000
moncreatexec	,000	,000	,000	,000	1,632	,000
selfreg	,000	,000	,000	,000	,997	,000
ee	,000	,000	,000	,000	,000	1,000
dp	,000	,000	,000	,000	,000	,435
pa	,000	,000	,000	,000	,000	-1,000

Table 96: Standardized Direct Effects (Group number 1 - Default model)

	country	ss	ws	ls	PIC	Burnout
ws	-,018	,000	,000	,000	,000	,000
ls	-8,466	-16,989	9,097	,000	33,212	-,920
PIC	,000	,000	,000	1,432	,000	,000
Burnout	-,369	-,158	,112	,539	-,962	,000
appbelief	,000	,000	,000	,000	,818	,000
moncreatexec	,000	,000	,000	,000	,630	,000
selfreg	,000	,000	,000	,000	,680	,000
ee	,000	,000	,000	,000	,000	,643
dp	,000	,000	,000	,000	,000	,581
pa	,000	,000	,000	,000	,000	-,682

Table 97: Indirect Effects (Group number 1 - Default model)

	country	ss	ws	ls	PIC	Burnout
ws	,000	,000	,000	,000	,000	,000
ls	118,512	119,555	-2,300	-1,021	-38,355	1,021
PIC	3,043	3,108	-,060	-1,294	-1,032	,027
Burnout	-1,877	-1,891	,036	-,480	,628	-,016
appbelief	3,043	3,108	-,060	-,027	-1,032	,027
moncreatexec	4,966	5,072	-,097	-,044	-1,684	,044
selfreg	3,033	3,097	-,059	-,027	-1,028	,027
ee	-6,532	-2,891	,062	,016	-,372	-,016
dp	-2,840	-1,257	,027	,007	-,162	-,007
pa	6,532	2,891	-,062	-,016	,372	,016

Table 98: Standardized Indirect Effects (Group number 1 - Default model)

	country	ss	ws	ls	PIC	Burnout
ws	,000	,000	,000	,000	,000	,000
ls	8,641	17,344	-9,287	-1,021	-33,933	,939
PIC	,251	,510	-,272	-1,462	-1,032	,028
Burnout	-,149	-,298	,159	-,522	,604	-,016
appbelief	,205	,417	-,223	-,025	-,844	,023
moncreatexec	,158	,321	-,172	-,019	-,650	,018
selfreg	,171	,347	-,185	-,021	-,702	,019
ee	-,333	-,293	,174	,011	-,230	-,010
dp	-,301	-,265	,157	,010	-,208	-,009

	country	ss	ws	ls	PIC	Burnout
pa	,353	,311	-,185	-,012	,244	,011

Model Fit Summary

Table 99: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	33	263,046	32	,000	8,220
Saturated model	65	,000	0		
Independence model	10	782,124	55	,000	14,220

Table 100: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,664	,422	,692	,454	,682
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

Table 101: Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	,582	,386	,397
Saturated model	,000	,000	,000
Independence model	1,000	,000	,000

Table 102: NCP

Model	NCP	LO 90	HI 90
Default model	231,046	183,025	286,544
Saturated model	,000	,000	,000
Independence model	727,124	640,431	821,248

Table 103: FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1,414	1,242	,984	1,541
Saturated model	,000	,000	,000	,000
Independence model	4,205	3,909	3,443	4,415

Table 104: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,197	,175	,219	,000
Independence model	,267	,250	,283	,000

Table 105: AIC

Model	AIC	BCC	BIC	CAIC
Default model	329,046	333,195		
Saturated model	130,000	138,171		
Independence model	802,124	803,382		

Table 106: ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1,769	1,511	2,067	1,791
Saturated model	,699	,699	,699	,743
Independence model	4,312	3,846	4,819	4,319

Table 107: HOELTER

Model	HOELTER	HOELTER
	,05	,01
Default model	33	38
Independence model	18	20

Section 26: SEM Final model (AMOS Output)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Table 108: Regression Weights: (Group number 1 - Default model) 43

		Estimate	S.E.	C.R.	P	Label
ls	<--- country	5,556	,775	7,169	***	par_8
ws	<--- country	-22,088	3,700	-5,969	***	par_4
ws	<--- PICI	-,470	,175	-2,679	,007	par_7
Burnout	<--- country	-5,357	1,324	-4,045	***	par_3
Burnout	<--- PICI	-,319	,063	-5,072	***	par_5
Burnout	<--- ws	,120	,024	4,959	***	par_6
ee	<--- Burnout	1,000				
moncreatexec	<--- PICI	1,000				
appbelief	<--- PICI	,753	,088	8,522	***	par_1
dp	<--- Burnout	,299	,039	7,735	***	par_2
PICI	<--- ls	,761	,137	5,565	***	par_9
ls	<--- ss	3,100	,430	7,203	***	par_10
ss	<--- PICI	,023	,008	3,025	,002	par_11

Table 109: Standardized Regression Weights: (Group number 1 - Default model) 44

		Estimate
ls	<--- country	,396
ws	<--- country	-,396
ws	<--- PICI	-,181
Burnout	<--- country	-,257
Burnout	<--- PICI	-,329
Burnout	<--- ws	,322
ee	<--- Burnout	,978
moncreatexec	<--- PICI	,671
appbelief	<--- PICI	1,008
dp	<--- Burnout	,655
PICI	<--- ls	,496
ls	<--- ss	,440
ss	<--- PICI	,249

Table 110: Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
country	1,481	,037	40,432	***	par_16
ls	-4,265	2,808	-1,519	,129	par_18
ss	5,643	,145	38,895	***	par_19
ws	147,077	6,062	24,262	***	par_17
dp	5,354	1,273	4,206	***	par_12
ee	18,244	4,171	4,374	***	par_13
moncreatexec	100,040	3,288	30,422	***	par_14
appbelief	47,174	1,778	26,538	***	par_15

Table 111: Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
e24	,250	,026	9,644	***	par_20
e25	78,123	15,482	5,046	***	par_21
e27	27,772	2,918	9,518	***	par_22
e28	,833	,093	8,954	***	par_23
e26	604,314	62,848	9,616	***	par_24
e20	60,458	12,378	4,884	***	par_25
e2	12,826	1,634	7,851	***	par_26
e21	141,186	17,662	7,994	***	par_27
e23	-,971	5,509	-,176	,860	par_28
e1	4,819	10,639	,453	,651	par_29

Matrices (Group number 1 - Default model)

Table 112: Implied (for all variables) Covariances (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout	appbelief	moncreatexec	ee	dp
country	,250									
ss	,026	,990								
ls	1,467	3,728	49,073							
PICI	1,116	4,740	43,230	115,497						
ws	-	-	-	-	774,757					
Burnout	-	-	-	-	150,594	108,167				
appbelief	,840	3,568	32,541	86,940	59,395	39,343	64,472			
moncreatexec	1,116	4,740	43,230	115,497	78,905	52,266	86,940	256,683		
ee	-	-	-	-	150,594	108,167	-	-52,266	112,9	

	country	ss	ls	PICI	ws	Burnout	appbelief	moncreatexec	ee	dp
	2,418	1,984	27,968	52,266	94	67	39,343		85	
dp	-,723	-,593	8,356	15,616	44,994	32,318	11,755	-15,616	32,318	22,482

Table 113: Implied (for all variables) Correlations (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout	appbelief	moncreatexec	ee	dp
country	1,000									
ss	,052	1,000								
ls	,419	,535	1,000							
PICI	,208	,443	,574	1,000						
ws	-,434	,101	-,270	,264	1,000					
Burnout	-,465	,192	,384	,468	,520	1,000				
appbelief	,209	,446	,579	1,008	-,266	-,471	1,000			
moncreatexec	,139	,297	,385	,671	,177	-,314	,676	1,000		
ee	-,455	,188	-,376	-,458	,509	,978	-,461	-,307	1,000	
dp	-,305	,126	,252	,306	,341	,655	-,309	-,206	,641	1,000

Table 114: Implied (for all variables) Means (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout	appbelief	moncreatexec	ee	dp
	1,481	6,041	22,690	17,260	106,251	-,667	60,167	117,300	17,578	5,155

Table 115: Total Effects (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout
ss	,103	,057	,019	,024	,000	,000
ls	5,876	3,278	,057	,076	,000	,000
PICI	4,469	2,493	,804	,057	,000	,000
ws	-24,187	-1,171	-,378	-,497	,000	,000
Burnout	-9,688	-,935	-,302	-,397	,120	,000
appbelief	3,364	1,877	,606	,796	,000	,000
moncreatexec	4,469	2,493	,804	1,057	,000	,000
ee	-9,688	-,935	-,302	-,397	,120	1,000
dp	-2,894	-,279	-,090	-,119	,036	,299

Table 116: Standardized Total Effects (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout
ss	,052	,057	,130	,263	,000	,000
ls	,419	,466	,057	,116	,000	,000
PICI	,208	,231	,524	,057	,000	,000
ws	-,434	-,042	-,095	-,192	,000	,000
Burnout	-,465	-,090	-,203	-,410	,322	,000
appbelief	,209	,233	,528	1,065	,000	,000
moncreatexec	,139	,155	,352	,709	,000	,000
ee	-,455	-,088	-,199	-,401	,315	,978
dp	-,305	-,059	-,133	-,269	,211	,655

Table 117: Direct Effects (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout
ss	,000	,000	,000	,023	,000	,000
ls	5,556	3,100	,000	,000	,000	,000
PICI	,000	,000	,761	,000	,000	,000
ws	-22,088	,000	,000	-,470	,000	,000
Burnout	-5,357	,000	,000	-,319	,120	,000
appbelief	,000	,000	,000	,753	,000	,000
moncreatexec	,000	,000	,000	1,000	,000	,000
ee	,000	,000	,000	,000	,000	1,000
dp	,000	,000	,000	,000	,000	,299

Table 118: Standardized Direct Effects (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout
ss	,000	,000	,000	,249	,000	,000
ls	,396	,440	,000	,000	,000	,000
PICI	,000	,000	,496	,000	,000	,000
ws	-,396	,000	,000	-,181	,000	,000
Burnout	-,257	,000	,000	-,329	,322	,000
appbelief	,000	,000	,000	1,008	,000	,000
moncreatexec	,000	,000	,000	,671	,000	,000
ee	,000	,000	,000	,000	,000	,978
dp	,000	,000	,000	,000	,000	,655

Table 119: Indirect Effects (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout
ss	,103	,057	,019	,001	,000	,000
ls	,319	,178	,057	,076	,000	,000
PICI	4,469	2,493	,044	,057	,000	,000
ws	-2,100	-1,171	-,378	-,027	,000	,000
Burnout	-4,331	-,935	-,302	-,078	,000	,000
appbelief	3,364	1,877	,606	,043	,000	,000
moncreatexec	4,469	2,493	,804	,057	,000	,000
ee	-9,688	-,935	-,302	-,397	,120	,000
dp	-2,894	-,279	-,090	-,119	,036	,000

Table 120: tandardized Indirect Effects (Group number 1 - Default model)

	country	ss	ls	PICI	ws	Burnout
ss	,052	,057	,130	,014	,000	,000
ls	,023	,025	,057	,116	,000	,000
PICI	,208	,231	,028	,057	,000	,000
ws	-,038	-,042	-,095	-,010	,000	,000
Burnout	-,208	-,090	-,203	-,081	,000	,000
appbelief	,209	,233	,528	,058	,000	,000
moncreatexec	,139	,155	,352	,039	,000	,000
ee	-,455	-,088	-,199	-,401	,315	,000
dp	-,305	-,059	-,133	-,269	,211	,000

Model Fit Summary**Table 121: CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	29	22,584	15	,093	1,506
Saturated model	44	,000	0		
Independence model	8	577,487	36	,000	16,041

Table 122: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,961	,906	,987	,966	,986
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

Table 123: Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	,417	,400	,411
Saturated model	,000	,000	,000
Independence model	1,000	,000	,000

Table 124: NCP

Model	NCP	LO 90	HI 90
Default model	7,584	,000	24,484
Saturated model	,000	,000	,000
Independence model	541,487	467,350	623,057

Table 125: FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	,121	,041	,000	,132
Saturated model	,000	,000	,000	,000
Independence model	3,105	2,911	2,513	3,350

Table 126: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,052	,000	,094	,425

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	,284	,264	,305	,000

Table 127: AIC

Model	AIC	BCC	BIC	CAIC
Default model	80,584	83,533		
Saturated model	88,000	92,475		
Independence model	593,487	594,301		

Table 128: ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	,433	,392	,524	,449
Saturated model	,473	,473	,473	,497
Independence model	3,191	2,792	3,629	3,195

Table 129: HOELTER

Model	HOELTER .05	HOELTER .01
Default model	206	252
Independence model	17	19

Section 27: ANOVA for Burnout and Marital status

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ONEWAY
  ee dp pa BY marstat
  /STATISTICS DESCRIPTIVES HOMOGENEITY WELCH
  /MISSING ANALYSIS
  /POSTHOC = LSD ALPHA(.05) .

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Table 130: Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	Minimum	Maximum
Emotional exhaustion_ mbi	single	36	20,1667	9,90094	1,65016	16,8167 23,5167	6,00	46,00
	married	84	15,2381	9,58364	1,04566	13,1583 17,3179	,00	52,00
	partner	40	20,3250	12,52359	1,98015	16,3198 24,3302	,00	50,00
	divorced	21	17,0952	11,37499	2,48223	11,9174 22,2731	2,00	40,00
	widowed	2	30,5000	4,94975	3,50000	-13,9717 74,9717	27,00	34,00
	other	4	12,0000	4,54606	2,27303	4,7662 19,2338	7,00	18,00
	Total	187	17,5775	10,70414	,78276	16,0333 19,1218	,00	52,00
Depersonali zation_mbi	single	36	7,2222	4,93449	,82242	5,5526 8,8918	,00	21,00
	married	84	3,8214	3,66409	,39979	3,0263 4,6166	,00	15,00
	partner	40	5,9250	5,98026	,94556	4,0124 7,8376	,00	26,00
	divorced	21	5,1905	4,53452	,98951	3,1264 7,2546	,00	17,00
	widowed	2	8,0000	4,24264	3,00000	-30,1186 46,1186	5,00	11,00
	other	4	5,2500	5,37742	2,68871	-3,3067 13,8067	,00	12,00
	Total	187	5,1551	4,76349	,34834	4,4679 5,8423	,00	26,00
Personal accomplish	single	36	32,4722	7,42385	1,23731	29,9604 34,9841	15,00	48,00

ment_mbi								
married	84	35,9286	7,47975	,81611	34,3054	37,5518	11,00	48,00
partner	40	35,3500	7,03672	1,11260	33,0995	37,6005	14,00	48,00
divorced	21	35,4286	7,39305	1,61330	32,0633	38,7938	19,00	46,00
widowed	2	28,5000	3,53553	2,50000	-3,2655	60,2655	26,00	31,00
other	4	37,2500	12,44655	6,22328	17,4448	57,0552	19,00	47,00
Total	187	35,0321	7,50978	,54917	33,9487	36,1155	11,00	48,00

Table 131: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Emotional exhaustion_mbi	1,672	5	181	,144
Depersonalization_mbi	1,354	5	181	,244
Personal accomplishment_mbi	,641	5	181	,669

Table 132: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Emotional exhaustion_mbi	Between Groups	1466,303	5	293,261	2,675	,023
	Within Groups	19845,323	181	109,643		
	Total	21311,626	186			
Depersonalization_mbi	Between Groups	343,196	5	68,639	3,204	,009
	Within Groups	3877,307	181	21,422		
	Total	4220,503	186			
Personal accomplishment_mbi	Between Groups	415,771	5	83,154	1,494	,194
	Within Groups	10074,037	181	55,658		
	Total	10489,807	186			

Table 133: Robust Tests of Equality of Means

		Statistic(a)	df1	df2	Sig.
Emotional exhaustion_mbi	Welch	4,477	5	9,156	,024
Depersonalization_mbi	Welch	2,640	5	8,419	,103
Personal accomplishment_mbi	Welch	1,898	5	8,853	,192

a. Asymptotically F distributed.

Table 134: Multiple Comparisons

LSD		Table 10. Multiple comparisons					
Dependent Variable	(I) marstat	(J) marstat	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Emotional exhaustion_mbi	single	married	4,92857(*)	2,08588	,019	,8128	9,0443
		partner	-,15833	2,40556	,948	-4,9049	4,5882
		divorced	3,07143	2,87519	,287	-2,6018	8,7446
		widowed	-10,33333	7,60703	,176	-25,3432	4,6765
		other	8,16667	5,51872	,141	-2,7226	19,0560
	married	single	-4,92857(*)	2,08588	,019	-9,0443	-,8128
		partner	-5,08690(*)	2,01155	,012	-9,0560	-1,1178
		divorced	-1,85714	2,55467	,468	-6,8979	3,1836

Depersonalizati on_mbi		widowed	-						
			15,26190(*)	7,49177	,043	-30,0443	-,4795		
		other	3,23810	5,35873	,546	-7,3355	13,8117		
		partner	single	,15833	2,40556	,948	-4,5882	4,9049	
		married	5,08690(*)	2,01155	,012	1,1178	9,0560		
		divorced	3,22976	2,82173	,254	-2,3379	8,7975		
		widowed	-10,17500	7,58699	,182	-25,1453	4,7953		
		other	8,32500	5,49106	,131	-2,5097	19,1597		
		divorced	single	-3,07143	2,87519	,287	-8,7446	2,6018	
		married	1,85714	2,55467	,468	-3,1836	6,8979		
		partner	-3,22976	2,82173	,254	-8,7975	2,3379		
		widowed	-13,40476	7,74870	,085	-28,6942	1,8846		
		other	5,09524	5,71242	,374	-6,1763	16,3667		
		widowed	single	10,33333	7,60703	,176	-4,6765	25,3432	
		married	15,26190(*)	7,49177	,043	,4795	30,0443		
		partner	10,17500	7,58699	,182	-4,7953	25,1453		
		divorced	13,40476	7,74870	,085	-1,8846	28,6942		
		other	18,50000(*)	9,06819	,043	,6070	36,3930		
		single	-8,16667	5,51872	,141	-19,0560	2,7226		
		married	-3,23810	5,35873	,546	-13,8117	7,3355		
		partner	-8,32500	5,49106	,131	-19,1597	2,5097		
		divorced	-5,09524	5,71242	,374	-16,3667	6,1763		
		widowed	-	9,06819	,043	-36,3930	-,6070		
		single	married	18,50000(*)					
			3,40079(*)	,92199	,000	1,5816	5,2200		
		partner	1,29722	1,06329	,224	-,8008	3,3953		
		divorced	2,03175	1,27087	,112	-,4759	4,5394		
		widowed	-,77778	3,36242	,817	-7,4124	5,8568		
		other	1,97222	2,43935	,420	-2,8410	6,7854		
		married	single	-3,40079(*)	,92199	,000	-5,2200	-1,5816	
		partner	-2,10357(*)	,88913	,019	-3,8580	-,3492		
		divorced	-1,36905	1,12920	,227	-3,5971	,8590		
		widowed	-4,17857	3,31147	,209	-10,7126	2,3555		
		other	-1,42857	2,36863	,547	-6,1023	3,2451		
		partner	single	-1,29722	1,06329	,224	-3,3953	,8008	
		married	2,10357(*)	,88913	,019	,3492	3,8580		
		divorced	,73452	1,24724	,557	-1,7265	3,1955		
		widowed	-2,07500	3,35356	,537	-8,6921	4,5421		
		other	,67500	2,42712	,781	-4,1141	5,4641		
		divorced	single	-2,03175	1,27087	,112	-4,5394	,4759	
		married	1,36905	1,12920	,227	-,8590	3,5971		
		partner	-,73452	1,24724	,557	-3,1955	1,7265		
		widowed	-2,80952	3,42504	,413	-9,5677	3,9486		
		other	-,05952	2,52497	,981	-5,0417	4,9226		
		widowed	single	,77778	3,36242	,817	-5,8568	7,4124	
		married	4,17857	3,31147	,209	-2,3555	10,7126		
		partner	2,07500	3,35356	,537	-4,5421	8,6921		
		divorced	2,80952	3,42504	,413	-3,9486	9,5677		
		other	2,75000	4,00826	,494	-5,1589	10,6589		
		other	single	-1,97222	2,43935	,420	-6,7854	2,8410	
		married	1,42857	2,36863	,547	-3,2451	6,1023		
		partner	-,67500	2,42712	,781	-5,4641	4,1141		
		divorced	,05952	2,52497	,981	-4,9226	5,0417		
		widowed	-2,75000	4,00826	,494	-10,6589	5,1589		

Personal accomplishment _mbi	single	married	-3,45635(*)	1,48615	,021	-6,3888	-,5239
		partner	-2,87778	1,71391	,095	-6,2596	,5040
		divorced	-2,95635	2,04851	,151	-6,9984	1,0857
		widowed	3,97222	5,41986	,465	-6,7220	14,6665
	married	other	-4,77778	3,93198	,226	-12,5362	2,9806
		single	3,45635(*)	1,48615	,021	,5239	6,3888
		partner	,57857	1,43319	,687	-2,2493	3,4065
		divorced	,50000	1,82015	,784	-3,0914	4,0914
	partner	widowed	7,42857	5,33774	,166	-3,1036	17,9608
		other	-1,32143	3,81798	,730	-8,8549	6,2121
		single	2,87778	1,71391	,095	-,5040	6,2596
		married	-,57857	1,43319	,687	-3,4065	2,2493
	divorced	divorced	-,07857	2,01042	,969	-4,0455	3,8883
		widowed	6,85000	5,40558	,207	-3,8161	17,5161
		other	-1,90000	3,91227	,628	-9,6195	5,8195
		single	2,95635	2,04851	,151	-1,0857	6,9984
	widowed	married	-,50000	1,82015	,784	-4,0914	3,0914
		partner	,07857	2,01042	,969	-3,8883	4,0455
		widowed	6,92857	5,52080	,211	-3,9648	17,8220
		other	-1,82143	4,06999	,655	-9,8521	6,2093
	other	single	-3,97222	5,41986	,465	-14,6665	6,7220
		married	-7,42857	5,33774	,166	-17,9608	3,1036
		partner	-6,85000	5,40558	,207	-17,5161	3,8161
		divorced	-6,92857	5,52080	,211	-17,8220	3,9648
		other	-8,75000	6,46090	,177	-21,4984	3,9984
		single	4,77778	3,93198	,226	-2,9806	12,5362
		married	1,32143	3,81798	,730	-6,2121	8,8549
		partner	1,90000	3,91227	,628	-5,8195	9,6195
		divorced	1,82143	4,06999	,655	-6,2093	9,8521
		widowed	8,75000	6,46090	,177	-3,9984	21,4984

* The mean difference is significant at the .05 level.

Section 28: Regression analysis for Emotional Exhaustion and demographic variables

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ee
/METHOD= STEPWISE country age wkcwpl edu_years married partner morechildren
worksalot workedalot .

```

Table 135: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Nationality	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: Emotional exhaustion_mbi

Table 136: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,464(a)	,215	,211	9,50681

a Predictors: (Constant), Nationality

Table 137: ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4591,443	1	4591,443	50,802	,000(a)
	Residual	16720,182	185	90,379		
	Total	21311,626	186			

a Predictors: (Constant), Nationality

b Dependent Variable: Emotional exhaustion_mbi

Table 138: Coefficients(a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	B	Std. Error
1	(Constant)	32,268	2,175		
	Nationality	-9,917	1,391	-,464	14,835
					7,128
					,000

a Dependent Variable: Emotional exhaustion_mbi

Table 139: Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	-,025(a)	-,333	,739	-,025	,762
	Number of years at the current workplace	-,073(a)	-1,056	,293	-,078	,897
	Years spent in education	,115(a)	1,092	,276	,080	,379
	Married	-,097(a)	-1,460	,146	-,107	,948
	Partner	-,005(a)	-,068	,946	-,005	,964
	More than 1 children	-,090(a)	-1,373	,171	-,101	,973
	Works at least 40 hours	,010(a)	,117	,907	,009	,590
	More than 5 years worked as a nurse	-,037(a)	-,562	,574	-,041	,994

a Predictors in the Model: (Constant), Nationality

b Dependent Variable: Emotional exhaustion_mbi

Section 29: Regression analysis for Depersonalization and demographic variables

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT dp

/METHOD= STEPWISE country age wkcowpl edu_years married partner morechildren

worksalot workedalot .

Table 140: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Nationality		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

2	Married	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
---	---------	---

a Dependent Variable: Depersonalization_mbi

Table 141: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,313(a)	,098	,093	4,53628
2	,365(b)	,133	,124	4,45934

a Predictors: (Constant), Nationality

b Predictors: (Constant), Nationality, Married

Table 142: ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	413,609	1	413,609	20,100	,000(a)
	Residual	3806,894	185	20,578		
	Total	4220,503	186			
2	Regression	561,527	2	280,764	14,119	,000(b)
	Residual	3658,976	184	19,886		
	Total	4220,503	186			

a Predictors: (Constant), Nationality

b Predictors: (Constant), Nationality, Married

c Dependent Variable: Depersonalization_mbi

Table 143: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t		Sig.
		B	Std. Error	Beta	B	Std. Error	
1	(Constant)	9,564	1,038		9,215	,000	
	Nationality	-2,977	,664	-,313	-4,483	,000	
2	(Constant)	9,773	1,023		9,552	,000	
	Nationality	-2,561	,670	-,269	-3,821	,000	
	Married	-1,836	,673	-,192	-2,727	,007	

a Dependent Variable: Depersonalization_mbi

Table 144: Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	-,054(a)	-,671	,503	-,049	,762
	Number of years at the current workplace	,025(a)	,332	,740	,024	,897
	Years spent in education	,208(a)	1,851	,066	,135	,379
	Married	-,192(a)	-2,727	,007	-,197	,948
	Partner	-,139(a)	-1,976	,050	-,144	,964
	More than 1 child	-,128(a)	-1,825	,070	-,133	,973
	Works at least 40 hours	,028(a)	,302	,763	,022	,590
	More than 5 years worked as a nurse	,008(a)	,117	,907	,009	,994
	age	-,011(b)	-,139	,889	-,010	,732
	Number of years at the current workplace	,067(b)	,899	,370	,066	,861
2	Years spent in education	,197(b)	1,777	,077	,130	,379
	Partner	-,032(b)	-,361	,719	-,027	,584
	More than 1 child	-,071(b)	-,958	,339	-,071	,856

Works at least 40 hours	,014(b)	,160	,873	,012	,588
More than 5 years worked as a nurse	,029(b)	,422	,673	,031	,982

a Predictors in the Model: (Constant), Nationality

b Predictors in the Model: (Constant), Nationality, Married

c Dependent Variable: Depersonalization_mbi

Section 30: Regression analysis for Personal Accomplishment and demographic variables

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT pa
  /METHOD= STEPWISE country age wkcowpl edu_years married partner morechildren
  worksalot workedalot .
```

Table 145: Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Nationality		Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a Dependent Variable: Personal accomplishment_mbi

Table 146: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,402(a)	,161	,157	6,89578

a Predictors: (Constant), Nationality

Table 147: ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1692,728	1	1692,728	35,598	,000(a)
	Residual	8797,080	185	47,552		
	Total	10489,807	186			

a Predictors: (Constant), Nationality

b Dependent Variable: Personal accomplishment_mbi

Table 148: Coefficients(a)

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	26,112	1,578		16,551	,000
	Nationality	6,022	1,009	,402	5,966	,000

a Dependent Variable: Personal accomplishment_mbi

Table 149: Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
1	age	-,077(a)	-,997	,320	-,073	,762

Number of years at the current workplace	,050(a)	,701	,484	,052	,897
Years spent in education	-,056(a)	-,511	,610	-,038	,379
Married	,018(a)	,254	,800	,019	,948
Partner	,059(a)	,866	,388	,064	,964
More than 1 children	,059(a)	,863	,390	,063	,973
Works at least 40 hours	,086(a)	,984	,326	,072	,590
More than 5 years worked as a nurse	,059(a)	,875	,383	,064	,994

a Predictors in the Model: (Constant), Nationality

b Dependent Variable: Personal accomplishment_mbi

Section 31: Chi square tests for demographic variables

CROSSTABS

```

/TABLES=marstat nrchild edu workyear workhour BY country
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT ROW COLUMN .

```

Crosstabs

Table 150: Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
marstat * Nationality	187	100,0%	0	,0%	187	100,0%
nrchild * Nationality	187	100,0%	0	,0%	187	100,0%
edu * Nationality	187	100,0%	0	,0%	187	100,0%
How many years have you worked as a nurse * Nationality	187	100,0%	0	,0%	187	100,0%
How many hours do you work on average per week * Nationality	187	100,0%	0	,0%	187	100,0%

marstat * Nationality

Table 151: Crosstab

			Nationality		Total
			Hungarian	Swedish	Hungarian
marstat	single	Count	29	7	36
		% within marstat	80,6%	19,4%	100,0%
		% within Nationality	29,9%	7,8%	19,3%
	married	Count	33	51	84
		% within marstat	39,3%	60,7%	100,0%
		% within Nationality	34,0%	56,7%	44,9%
	partner	Count	23	17	40
		% within marstat	57,5%	42,5%	100,0%
		% within Nationality	23,7%	18,9%	21,4%
	divorced	Count	11	10	21
		% within marstat	52,4%	47,6%	100,0%
		% within Nationality	11,3%	11,1%	11,2%
	widowed	Count	1	1	2

Total	% within marstat	50,0%	50,0%	100,0%
	% within Nationality	1,0%	1,1%	1,1%
	Count	0	4	4
	% within marstat	,0%	100,0%	100,0%
	% within Nationality	,0%	4,4%	2,1%
	Count	97	90	187
	% within marstat	51,9%	48,1%	100,0%
	% within Nationality	100,0%	100,0%	100,0%

Table 152: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,018(a)	5	,001
Likelihood Ratio	24,560	5	,000
Linear-by-Linear Association	4,856	1	,028
N of Valid Cases	187		

a. 4 cells (33,3%) have expected count less than 5. The minimum expected count is ,96.

nrchild * Nationality

Table 153: Crosstab

			Nationality		Total
			Hungarian	Swedish	Hungarian
nrchild 0-1	Count		40	23	63
		% within nrchild	63,5%	36,5%	100,0%
		% within Nationality	41,2%	25,6%	33,7%
2-3	Count		50	62	112
		% within nrchild	44,6%	55,4%	100,0%
		% within Nationality	51,5%	68,9%	59,9%
4-5	Count		7	5	12
		% within nrchild	58,3%	41,7%	100,0%
		% within Nationality	7,2%	5,6%	6,4%
Total	Count		97	90	187
% within Nationality			100,0%	100,0%	100,0%

Table 154: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5,953(a)	2	,051
Likelihood Ratio	6,006	2	,050
Linear-by-Linear Association	2,794	1	,095
N of Valid Cases	187		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 5,78.

edu * Nationality

Table 155: Crosstab

			Nationality		Total
			Hungarian	Swedish	Hungarian
edu	high school	Count	77	1	78
		% within edu	98,7%	1,3%	100,0%
		% within Nationality	79,4%	1,1%	41,7%
	bachelor degree	Count	19	62	81
		% within edu	23,5%	76,5%	100,0%
		% within Nationality	19,6%	68,9%	43,3%
	master degree	Count	1	27	28
		% within edu	3,6%	96,4%	100,0%
		% within Nationality	1,0%	30,0%	15,0%
Total	Count		97	90	187
	% within edu		51,9%	48,1%	100,0%
	% within Nationality		100,0%	100,0%	100,0%

Table 156: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	120,929(a)	2	,000
Likelihood Ratio	151,399	2	,000
Linear-by-Linear Association	107,805	1	,000
N of Valid Cases	187		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 13,48.

How many years have you worked as a nurse * Nationality

Table 157: Crosstab

			Nationality		Total
			Hungarian	Swedish	Hungarian
How many years have you worked as a nurse	1-5 years	Count	10	14	24
		% within How many years have you worked as a nurse	41,7%	58,3%	100,0%
		% within Nationality	10,3%	15,6%	12,8%
	6-10 years	Count	15	13	28
		% within How many years have you worked as a nurse	53,6%	46,4%	100,0%
		% within Nationality	15,5%	14,4%	15,0%
	11-15 years	Count	24	12	36
		% within How many years have you worked as a nurse	66,7%	33,3%	100,0%
		% within Nationality	24,7%	13,3%	19,3%
	16-20 years	Count	21	10	31
		% within How many years have you worked as a nurse	67,7%	32,3%	100,0%
		% within Nationality	21,6%	11,1%	16,6%

Total	more than 20 years	Count	27	41	68
		% within How many years have you worked as a nurse	39,7%	60,3%	100,0%
		% within Nationality	27,8%	45,6%	36,4%
		Count	97	90	187
		% within How many years have you worked as a nurse	51,9%	48,1%	100,0%
		% within Nationality	100,0%	100,0%	100,0%

Table 158: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11,349(a)	4	,023
Likelihood Ratio	11,521	4	,021
Linear-by-Linear Association	,540	1	,462
N of Valid Cases	187		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 11,55.

How many hours do you work on average per week * Nationality

Table 159: Crosstab

			Nationality		Total
			Hungarian	Swedish	Hungarian
How many hours do you work on average per week	below 40 hours	Count	4	58	62
		% within How many hours do you work on average per week	6,5%	93,5%	100,0%
		% within Nationality	4,1%	64,4%	33,2%
	40 hours	Count	62	29	91
		% within How many hours do you work on average per week	68,1%	31,9%	100,0%
		% within Nationality	63,9%	32,2%	48,7%
	above 40 hours	Count	31	3	34
		% within How many hours do you work on average per week	91,2%	8,8%	100,0%
		% within Nationality	32,0%	3,3%	18,2%
	Total	Count	97	90	187
		% within How many hours do you work on average per week	51,9%	48,1%	100,0%
		% within Nationality	100,0%	100,0%	100,0%

Table 160: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	81,911(a)	2	,000
Likelihood Ratio	95,110	2	,000
Linear-by-Linear Association	74,828	1	,000
N of Valid Cases	187		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 16,36.

Section 32: Correlations for demographic variables

CORRELATIONS

```

/VARIABLES=age edu_years higheredu married partner morechildren worksalot
workedalot
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE .

```

Table 161: Correlations

		age	Years spent in educa- tion	Highe- r educa- tion	Marrie- d	Partn- er	More than 1 child- ren	Works at least 40 hours	More than 5 years worked as a nurse
age	Pearson Correlation	1	,294(*)	,370(*)	,281(*)	,091	,407(*)	-,279(*)	,317(**)
	Sig. (2-tailed)		,000	,000	,000	,218	,000	,000	,000
	N	187	187	187	187	187	187	187	187
Years spent in education	Pearson Correlation	,294(*)	1	,933(*)	,156(*)	,171(*)	,049	,471(*)	-,162(*)
	Sig. (2-tailed)	,000		,000	,033	,019	,506	,000	,026
	N	187	187	187	187	187	187	187	187
Higher education	Pearson Correlation	,370(*)	,933(*)	1	,132	,177(*)	,040	,504(*)	-,065
	Sig. (2-tailed)	,000	,000		,073	,015	,591	,000	,375
	N	187	187	187	187	187	187	187	187
Married	Pearson Correlation	,281(*)	,156(*)	,132	1	,644(*)	,371(*)	-,186(*)	,089
	Sig. (2-tailed)	,000	,033	,073		,000	,000	,011	,224
	N	187	187	187	187	187	187	187	187
Partner	Pearson Correlation	,091	,171(*)	,177(*)	,644(*)	1	,234(*)	-,166(*)	,065
	Sig. (2-tailed)	,218	,019	,015	,000		,001	,024	,379
	N	187	187	187	187	187	187	187	187
More than 1 children	Pearson Correlation	,407(*)	,049	,040	,371(*)	,234(*)	1	-,141	,302(**)
	Sig. (2-tailed)	,000	,506	,591	,000	,001		,053	,000
	N	187	187	187	187	187	187	187	187
Works at least 40 hours	Pearson Correlation	-,279(*)	-,471(*)	-,504(*)	-,186(*)	-,166(*)	-,141	1	,001

	Sig. (2-tailed)	,000	,000	,000	,011	,024	,053		,984
	N	187	187	187	187	187	187	187	187
More than 5 years worked as a nurse	Pearson Correlation	,317(**)	-,162(*)	-,065	,089	,065	,302(*)	,001	1
	Sig. (2-tailed)	,000	,026	,375	,224	,379	,000	,984	
	N	187	187	187	187	187	187	187	187

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Section 33: T-tests for scale demographic variables

T-TEST

```
GROUPS = country(1 2)
/MISSING = ANALYSIS
/VARIABLES = age wkcwpl
/CRITERIA = CI(.95) .
```

T-Test

Table 162: Group Statistics

	Nationality	N	Mean	Std. Deviation	Std. Error Mean
age	Hungarian	97	36,90	8,342	,847
	Swedish	90	46,78	9,449	,996
Number of years at the current workplace	Hungarian	97	6,93	6,852	,696
	Swedish	90	12,66	9,910	1,045

Table 163: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
age	Equal variances assumed	2,246	,136	-7,593	185	,000	-9,881	1,301	-12,448	-7,313
	Equal variances not assumed			-7,557	177,983	,000	-9,881	1,307	-12,461	-7,301
Number of years at the current workplace	Equal variances assumed	25,658	,000	-4,620	185	,000	-5,723	1,239	-8,166	-3,279
	Equal variances not assumed			-4,559	156,862	,000	-5,723	1,255	-8,202	-3,243

Section 34a: Correlations between 9 work stress scales and burnout for Hungarian nurses

```
USE ALL.
COMPUTE filter_$=(country = 1).
VARIABLE LABEL filter_$ 'country = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$ .
EXECUTE .
CORRELATIONS
  /VARIABLES=ee dp pa halal konforv munktars betegeg munkmag bethoz felkesz
  terheles feladat ws
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE .
```

Table 164: Correlations

[illegible]

Relationship with the patient's relatives	Pears on Correlation	,340(* _{*)}	,203(* _{*)}	,059	,326(**)	,612(* _{*)}	1	,455(**)	,253(* _{*)}	,527(* _{*)}	,651(**)	,492(* _{*)}	,561(* _{*)}
	Sig. (2-tailed) N	,001 97	,047 97	,567 97	,001 97	,000 97		,000 97	,012 97	,000 97	,000 97	,000 97	,000 97
Being unprepared and feeling inexperienced	Pears on Correlation	,469(* _{*)}	,346(* _{*)}	,072	,517(**)	,558(* _{*)}	,455(**)	1	,329(* _{*)}	,510(* _{*)}	,609(**)	,509(* _{*)}	,533(* _{*)}
	Sig. (2-tailed) N	,000 97	,001 97	,484 97	,000 97	,000 97	,000 97		,001 97	,000 97	,000 97	,000 97	,000 97
Workload	Pears on Correlation	,130	,192	,168	,508(**)	,321(* _{*)}	,253(* _{*)}	,329(**)	1	,518(* _{*)}	,321(**)	,555(* _{*)}	,556(* _{*)}
	Sig. (2-tailed) N	,206 97	,060 97	,101 97	,000 97	,001 97	,012 97	,001 97		,000 97	,001 97	,000 97	,000 97
Stress related to tasks	Pears on Correlation	,324(* _{*)}	,207(* _{*)}	,064	,597(**)	,590(* _{*)}	,527(**)	,510(**)	,518(* _{*)}	1	,458(**)	,693(* _{*)}	,763(* _{*)}
	Sig. (2-tailed) N	,001 97	,041 97	,533 97	,000 97	,000 97	,000 97	,000 97	,000 97		,000 97	,000 97	,000 97
Emotional exhaustion_mbi	Pears on Correlation	,377(* _{*)}	,276(* _{*)}	-,093	,425(**)	,652(* _{*)}	,651(**)	,609(**)	,321(* _{*)}	,458(* _{*)}	1	,408(* _{*)}	,485(* _{*)}
	Sig. (2-tailed) N	,000 97	,006 97	,364 97	,000 97	,000 97	,000 97	,000 97	,001 97	,000 97		,000 97	,000 97
Depersonalization_mbi	Pears on Correlation	,413(* _{*)}	,266(* _{*)}	-,088	,489(**)	,580(* _{*)}	,492(**)	,509(**)	,555(* _{*)}	,693(* _{*)}	,408(**)	1	,776(* _{*)}
	Sig. (2-tailed) N	,000 97	,008 97	,393 97	,000 97	,000 97	,000 97	,000 97	,000 97	,000 97	,000 97		,000 97
Personal accomplishment_mbi	Pears on Correlation	,316(* _{*)}	,197	-,099	,499(**)	,588(* _{*)}	,561(**)	,533(**)	,556(* _{*)}	,763(* _{*)}	,485(**)	,776(* _{*)}	1
	Sig. (2-tailed) N	,002 97	,053 97	,337 97	,000 97	,000 97	,000 97	,000 97	,000 97	,000 97	,000 97	,000 97	

** Correlation is significant at the 0.01 level (2-tailed).

Section 34b: Correlations between 9 work stress scales and burnout for Swedish nurses

```
USE ALL.
COMPUTE filter_$=(country = 2).
VARIABLE LABEL filter_$ 'country = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$ .
EXECUTE .
CORRELATIONS
  /VARIABLES=ee dp pa halal konforv munktars betegekg munkmag bethoz felkesz
  terheles feladat ws
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE .
```

[illegible]

Relationship with the patient's relatives	N	90	90	90	90	90	90	89	90	90	90	90	90
	Pears on Correlation	,238(*)	,003	-,036	,620(**)	,649(*)	1	,657(**)	,707(*)	,546(*)	,679(**)	,579(*)	,668(*)
Being unprepared and feeling inexperienced	Sig. (2-tailed)	,024	,978	,734	,000	,000		,000	,000	,000	,000	,000	,000
	N	90	90	90	90	90	90	89	90	90	90	90	90
Workload	Pears on Correlation	,288(*)	-,025	,009	,639(**)	,652(*)		1	,633(*)	,533(*)	,602(**)	,486(*)	,652(*)
	Sig. (2-tailed)	,006	,817	,933	,000	,000	,000		,000	,000	,000	,000	,000
Stress related to tasks	N	89	89	89	89	89	89	89	89	89	89	89	89
	Pears on Correlation	,310(*)	,031	,006	,727(**)	,727(*)	,707(**)	,633(**)	1	,670(*)	,709(**)	,591(*)	,652(*)
Emotional exhaustion_mbi	Sig. (2-tailed)	,003	,773	,952	,000	,000	,000	,000		,000	,000	,000	,000
	N	90	90	90	90	90	90	89	90	90	90	90	90
Depersonalization_mbi	Pears on Correlation	,214(*)	-,111	,074	,647(**)	,623(*)	,546(**)	,533(**)	,670(*)	1	,659(**)	,615(*)	,698(*)
	Sig. (2-tailed)	,042	,298	,489	,000	,000	,000	,000	,000		,000	,000	,000
Personal accomplishment_mbi	N	90	90	90	90	90	90	89	90	90	90	90	90
	Pears on Correlation	,264(*)	,029	,070	,594(**)	,709(*)	,679(**)	,602(**)	,709(*)	,659(*)	1	,646(*)	,615(*)
	Sig. (2-tailed)	,012	,785	,509	,000	,000	,000	,000	,000	,000		,000	,000
	N	90	90	90	90	90	90	89	90	90	90	90	90
	Pears on Correlation	,127	,023	-,028	,566(**)	,537(*)	,579(**)	,486(**)	,591(*)	,615(*)	,646(**)	1	,495(*)
	Sig. (2-tailed)	,235	,828	,796	,000	,000	,000	,000	,000	,000	,000		,000
	N	90	90	90	90	90	90	89	90	90	90	90	90
	Pears on Correlation	,397(*)	,039	,008	,629(**)	,747(*)	,668(**)	,652(**)	,652(*)	,698(*)	,615(**)	,495(*)	1
	Sig. (2-tailed)	,000	,717	,940	,000	,000	,000	,000	,000	,000	,000	,000	
	N	90	90	90	90	90	90	89	90	90	90	90	90

- ** Correlation is significant at the 0.01 level (2-tailed).
 * Correlation is significant at the 0.05 level (2-tailed).

Section 35a: Confirmatory Factor Analysis of the PICI subscales for the Hungarian sample (AMOS output)

Table 166: Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
Social Creating Capacity	<--- CREEXSYS	1,000				
Social Mobilizing Capacity	<--- CREEXSYS	,687	,154	4,454	***	
Social Monitoring Capacity	<--- CREEXSYS	1,034	,160	6,459	***	
Problem Solving Capacity	<--- CREEXSYS	1,078	,167	6,461	***	
Sense of Control	<--- APPMONSYS	,668	,114	5,845	***	
Sense of Self-Growth	<--- APPMONSYS	,838	,136	6,152	***	
Sense of Coherence	<--- APPMONSYS	,943	,139	6,776	***	
Positive Thinking	<--- APPMONSYS	1,000				
Change and Challenge Orientation	<--- CREEXSYS	,884	,160	5,539	***	
Goal Orientation	<--- CREEXSYS	,608	,140	4,337	***	
Self-Efficacy	<--- CREEXSYS	,913	,125	7,275	***	
Creative Self-Concept	<--- CREEXSYS	1,332	,155	8,600	***	
Synchronicity	<--- SELFREGSYS	1,000				
Impulse Control	<--- SELFREGSYS	,821	,137	5,974	***	
Emotional Control	<--- SELFREGSYS	,927	,156	5,957	***	
Irritability Control	<--- SELFREGSYS	,929	,143	6,516	***	

Table 167: Standardized Regression Weights: (Group number 1 - Default model)

		Estimate
Social Creating Capacity	<--- CREEXSYS	,751
Social Mobilizing Capacity	<--- CREEXSYS	,469
Social Monitoring Capacity	<--- CREEXSYS	,669
Problem Solving Capacity	<--- CREEXSYS	,667
Sense of Control	<--- APPMONSYS	,622
Sense of Self-Growth	<--- APPMONSYS	,649
Sense of Coherence	<--- APPMONSYS	,714
Positive Thinking	<--- APPMONSYS	,723
Change and Challenge Orientation	<--- CREEXSYS	,577
Goal Orientation	<--- CREEXSYS	,457
Self-Efficacy	<--- CREEXSYS	,744
Creative Self-Concept	<--- CREEXSYS	,874
Synchronicity	<--- SELFREGSYS	,740
Impulse Control	<--- SELFREGSYS	,661
Emotional Control	<--- SELFREGSYS	,659
Irritability Control	<--- SELFREGSYS	,724

Table 168: Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Social Creating Capacity	13,082	,284	46,057	***	
Social Mobilizing Capacity	14,608	,312	46,753	***	
Social Monitoring Capacity	13,295	,331	40,214	***	
Problem Solving Capacity	13,845	,345	40,162	***	
Sense of Control	14,060	,249	56,573	***	
Sense of Self-Growth	14,763	,296	49,824	***	
Sense of Coherence	14,938	,303	49,281	***	
Positive Thinking	14,505	,317	45,697	***	
Change and Challenge Orientation	13,825	,326	42,356	***	
Goal Orientation	15,918	,284	56,112	***	
Self-Efficacy	15,392	,262	58,844	***	
Creative Self-Concept	14,323	,326	43,958	***	
Synchronicity	14,454	,330	43,806	***	
Impulse Control	14,103	,302	46,708	***	
Emotional Control	12,196	,342	35,659	***	
Irritability Control	12,680	,312	40,628	***	

Table 169: Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CREEXSYS <--> APPMONSYS	3,569	,811	4,403	***	
SELFREGSYS <--> APPMONSYS	4,702	1,024	4,592	***	
SELFREGSYS <--> CREEXSYS	1,665	,661	2,519	,012	

Table 170: Correlations: (Group number 1 – Default model)

	Estimate
CREEXSYS <=> APPMONSYS	,759
SELFREGSYS <=> APPMONSYS	,877
SELFREGSYS <=> CREEXSYS	,334

Table 171: Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CREEXSYS	4,364	1,047	4,168	***	
APPMONSYS	5,061	1,284	3,943	***	
SELFREGSYS	5,684	1,450	3,920	***	
e1	3,381	,568	5,948	***	
e2	7,310	1,088	6,718	***	
e3	5,766	,917	6,288	***	
e4	6,336	1,002	6,326	***	
e5	3,588	,561	6,397	***	
e6	4,873	,764	6,377	***	
e7	4,325	,710	6,090	***	
e8	4,612	,764	6,033	***	
e9	6,819	1,040	6,554	***	
e10	6,111	,908	6,731	***	
e11	2,933	,490	5,988	***	

	Estimate	S.E.	C.R.	P	Label
e12	2,407	,537	4,480	***	
e13	4,706	,876	5,373	***	
e14	4,923	,827	5,954	***	
e15	6,346	1,064	5,965	***	
e16	4,447	,804	5,533	***	

Table 172: Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
Irritability Control	,524
Emotional Control	,435
Impulse Control	,438
Synchronicity	,547
Creative Self-Concept	,763
Self-Efficacy	,553
Goal Orientation	,209
Change and Challenge Orientation	,333
Positive Thinking	,523
Sense of Coherence	,510
Sense of Self-Growth	,422
Sense of Control	,387
Problem Solving Capacity	,445
Social Monitoring Capacity	,447
Social Mobilizing Capacity	,220
Social Creating Capacity	,563

Matrices (Group number 1 - Default model)

Table 173: Total Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,929
Emotional Control	,000	,000	,927
Impulse Control	,000	,000	,821
Synchronicity	,000	,000	1,000
Creative Self-Concept	,000	1,332	,000
Self-Efficacy	,000	,913	,000
Goal Orientation	,000	,608	,000
Change and Challenge Orientation	,000	,884	,000
Positive Thinking	1,000	,000	,000
Sense of Coherence	,943	,000	,000
Sense of Self-Growth	,838	,000	,000
Sense of Control	,668	,000	,000
Problem Solving Capacity	,000	1,078	,000
Social Monitoring Capacity	,000	1,034	,000
Social Mobilizing Capacity	,000	,687	,000
Social Creating Capacity	,000	1,000	,000

Table 174: Standardized Total Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,724
Emotional Control	,000	,000	,659
Impulse Control	,000	,000	,661
Synchronicity	,000	,000	,740
Creative Self-Concept	,000	,874	,000
Self-Efficacy	,000	,744	,000
Goal Orientation	,000	,457	,000
Change and Challenge Orientation	,000	,577	,000
Positive Thinking	,723	,000	,000
Sense of Coherence	,714	,000	,000
Sense of Self-Growth	,649	,000	,000
Sense of Control	,622	,000	,000
Problem Solving Capacity	,000	,667	,000
Social Monitoring Capacity	,000	,669	,000
Social Mobilizing Capacity	,000	,469	,000
Social Creating Capacity	,000	,751	,000

Table 175: Direct Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,929
Emotional Control	,000	,000	,927
Impulse Control	,000	,000	,821
Synchronicity	,000	,000	1,000
Creative Self-Concept	,000	1,332	,000
Self-Efficacy	,000	,913	,000
Goal Orientation	,000	,608	,000
Change and Challenge Orientation	,000	,884	,000
Positive Thinking	1,000	,000	,000
Sense of Coherence	,943	,000	,000
Sense of Self-Growth	,838	,000	,000
Sense of Control	,668	,000	,000
Problem Solving Capacity	,000	1,078	,000
Social Monitoring Capacity	,000	1,034	,000
Social Mobilizing Capacity	,000	,687	,000
Social Creating Capacity	,000	1,000	,000

Table 176: Standardized Direct Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,724
Emotional Control	,000	,000	,659
Impulse Control	,000	,000	,661
Synchronicity	,000	,000	,740
Creative Self-Concept	,000	,874	,000
Self-Efficacy	,000	,744	,000

	APPMONSYS	CREEXSYS	SELFREGSYS
Goal Orientation	,000	,457	,000
Change and Challenge Orientation	,000	,577	,000
Positive Thinking	,723	,000	,000
Sense of Coherence	,714	,000	,000
Sense of Self-Growth	,649	,000	,000
Sense of Control	,622	,000	,000
Problem Solving Capacity	,000	,667	,000
Social Monitoring Capacity	,000	,669	,000
Social Mobilizing Capacity	,000	,469	,000
Social Creating Capacity	,000	,751	,000

Table 177: Indirect Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,000
Emotional Control	,000	,000	,000
Impulse Control	,000	,000	,000
Synchronicity	,000	,000	,000
Creative Self-Concept	,000	,000	,000
Self-Efficacy	,000	,000	,000
Goal Orientation	,000	,000	,000
Change and Challenge Orientation	,000	,000	,000
Positive Thinking	,000	,000	,000
Sense of Coherence	,000	,000	,000
Sense of Self-Growth	,000	,000	,000
Sense of Control	,000	,000	,000
Problem Solving Capacity	,000	,000	,000
Social Monitoring Capacity	,000	,000	,000
Social Mobilizing Capacity	,000	,000	,000
Social Creating Capacity	,000	,000	,000

Table 178: Standardized Indirect Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,000
Emotional Control	,000	,000	,000
Impulse Control	,000	,000	,000
Synchronicity	,000	,000	,000
Creative Self-Concept	,000	,000	,000
Self-Efficacy	,000	,000	,000
Goal Orientation	,000	,000	,000
Change and Challenge Orientation	,000	,000	,000
Positive Thinking	,000	,000	,000
Sense of Coherence	,000	,000	,000
Sense of Self-Growth	,000	,000	,000
Sense of Control	,000	,000	,000
Problem Solving Capacity	,000	,000	,000

	APPMONSYS	CREEXSYS	SELFREGSYS
Social Monitoring Capacity	,000	,000	,000
Social Mobilizing Capacity	,000	,000	,000
Social Creating Capacity	,000	,000	,000
Irritability Control			

	APPMONSYS	CREEXSYS	SELFREGSYS
APPMONSYS	5,061		
CREEXSYS	3,569	4,364	
SELFREGSYS	4,702	1,665	5,684

Model Fit Summary

Table 179: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	51	246,564	101	,000	2,441
Saturated model	152	,000	0		
Independence model	16	840,953	136	,000	6,183

Table 180: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,707	,605	,803	,722	,794
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

Model	PRATIO	PNFI	PCFI
Default model	,743	,525	,589
Saturated model	,000	,000	,000
Independence model	1,000	,000	,000

Table 182: NCP

Model	NCP	LO 90	HI 90
Default model	145,564	103,298	195,528
Saturated model	,000	,000	,000
Independence model	704,953	617,200	800,195

Table 183: FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2,568	1,516	1,076	2,037
Saturated model	,000	,000	,000	,000
Independence model	8,760	7,343	6,429	8,335

Table 184: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,123	,103	,142	,000
Independence model	,232	,217	,248	,000

Tabel 185: AIC

Model	AIC	BCC	BIC	CAIC
Default model	348,564	370,513		
Saturated model	304,000	369,418		
Independence model	872,953	879,839		

Table 186: ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3,631	3,191	4,151	3,860
Saturated model	3,167	3,167	3,167	3,848
Independence model	9,093	8,179	10,085	9,165

Table 187: HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	49	54
Independence model	19	21

Section 35b: Confirmatory Factor Analysis of the PICI subscales for the Swedish sample (AMOS output)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

Table 188: Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
Social Creating Capacity	<--- CREEXSYS	1,000				
Social Mobilizing Capacity	<--- CREEXSYS	,983	,177	5,542	***	
Social Monitoring Capacity	<--- CREEXSYS	,686	,170	4,049	***	
Problem Solving Capacity	<--- CREEXSYS	,970	,169	5,755	***	
Sense of Control	<--- APPMONSYS	,313	,119	2,642	,008	
Sense of Self-Growth	<--- APPMONSYS	1,041	,137	7,620	***	
Sense of Coherence	<--- APPMONSYS	1,023	,143	7,163	***	
Positive Thinking	<--- APPMONSYS	1,000				
Change and Challenge Orientation	<--- CREEXSYS	1,116	,205	5,444	***	
Goal Orientation	<--- CREEXSYS	,417	,147	2,847	,004	
Self-Efficacy	<--- CREEXSYS	1,144	,169	6,755	***	
Creative Self-Concept	<--- CREEXSYS	1,384	,205	6,751	***	
Synchronicity	<--- SELFREGSYS	1,000				
Impulse Control	<--- SELFREGSYS	,306	,123	2,485	,013	
Emotional Control	<--- SELFREGSYS	,865	,145	5,979	***	
Irritability Control	<--- SELFREGSYS	,714	,138	5,164	***	

Table 189: Standardized Regression Weights: (Group number 1 - Default model)

		Estimate
Social Creating Capacity	<--- CREEXSYS	,657
Social Mobilizing Capacity	<--- CREEXSYS	,663
Social Monitoring Capacity	<--- CREEXSYS	,467
Problem Solving Capacity	<--- CREEXSYS	,695
Sense of Control	<--- APPMONSYS	,293
Sense of Self-Growth	<--- APPMONSYS	,789
Sense of Coherence	<--- APPMONSYS	,749
Positive Thinking	<--- APPMONSYS	,774
Change and Challenge Orientation	<--- CREEXSYS	,649
Goal Orientation	<--- CREEXSYS	,322
Self-Efficacy	<--- CREEXSYS	,844
Creative Self-Concept	<--- CREEXSYS	,843
Synchronicity	<--- SELFREGSYS	,782
Impulse Control	<--- SELFREGSYS	,292
Emotional Control	<--- SELFREGSYS	,703
Irritability Control	<--- SELFREGSYS	,601

Table 190: Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Social Creating Capacity	13,289	,274	48,535	***	
Social Mobilizing Capacity	15,344	,267	57,505	***	
Social Monitoring Capacity	14,589	,264	55,186	***	
Problem Solving Capacity	14,139	,252	56,094	***	
Sense of Control	13,322	,203	65,669	***	
Sense of Self-Growth	16,189	,251	64,552	***	
Sense of Coherence	16,451	,260	63,182	***	
Positive Thinking	16,133	,245	65,741	***	
Change and Challenge Orientation	15,367	,309	49,662	***	
Goal Orientation	16,633	,233	71,384	***	
Self-Efficacy	15,444	,244	63,341	***	
Creative Self-Concept	15,944	,295	53,985	***	
Synchronicity	15,065	,281	53,569	***	
Impulse Control	14,920	,231	64,474	***	
Emotional Control	14,578	,270	53,991	***	
Irritability Control	14,744	,260	56,623	***	

Table 191: Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CREEXSYS <--> APPMONSYS	2,598	,600	4,329	***	
SELFREGSYS <--> APPMONSYS	3,096	,683	4,533	***	
SELFREGSYS <--> CREEXSYS	2,201	,598	3,679	***	

Table 192: Correlations: (Group number 1 - Default model)

	Estimate
CREEXSYS <--> APPMONSYS	,854
SELFREGSYS <--> APPMONSYS	,835
SELFREGSYS <--> CREEXSYS	,627

Table 193: Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CREEXSYS	2,882	,856	3,365	***	
APPMONSYS	3,211	,774	4,148	***	
SELFREGSYS	4,277	1,093	3,914	***	
e1	3,791	,615	6,160	***	
e2	3,553	,578	6,145	***	
e3	4,862	,750	6,484	***	
e4	2,907	,484	6,010	***	
e5	3,348	,508	6,593	***	
e6	2,116	,406	5,207	***	
e7	2,636	,477	5,531	***	
e8	2,149	,402	5,353	***	
e9	4,930	,797	6,182	***	
e10	4,330	,657	6,594	***	
e11	1,520	,305	4,979	***	
e12	2,241	,449	4,990	***	
e13	2,719	,648	4,197	***	
e14	4,316	,664	6,497	***	
e15	3,285	,637	5,160	***	
e16	3,855	,663	5,815	***	

Tabel 194: Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
Irritability Control	,361
Emotional Control	,494
Impulse Control	,085
Synchronicity	,611
Creative Self-Concept	,711
Self-Efficacy	,713
Goal Orientation	,104
Change and Challenge Orientation	,421
Positive Thinking	,599
Sense of Coherence	,561
Sense of Self-Growth	,622
Sense of Control	,086
Problem Solving Capacity	,483
Social Monitoring Capacity	,218
Social Mobilizing Capacity	,439
Social Creating Capacity	,432

Matrices (Group number 1 - Default model)

Table 195: Total Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,714
Emotional Control	,000	,000	,865
Impulse Control	,000	,000	,306
Synchronicity	,000	,000	1,000
Creative Self-Concept	,000	1,384	,000
Self-Efficacy	,000	1,144	,000
Goal Orientation	,000	,417	,000
Change and Challenge Orientation	,000	1,116	,000
Positive Thinking	1,000	,000	,000
Sense of Coherence	1,023	,000	,000
Sense of Self-Growth	1,041	,000	,000
Sense of Control	,313	,000	,000
Problem Solving Capacity	,000	,970	,000
Social Monitoring Capacity	,000	,686	,000
Social Mobilizing Capacity	,000	,983	,000
Social Creating Capacity	,000	1,000	,000

Table 196: Standardized Total Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,601
Emotional Control	,000	,000	,703
Impulse Control	,000	,000	,292
Synchronicity	,000	,000	,782
Creative Self-Concept	,000	,843	,000
Self-Efficacy	,000	,844	,000
Goal Orientation	,000	,322	,000
Change and Challenge Orientation	,000	,649	,000
Positive Thinking	,774	,000	,000
Sense of Coherence	,749	,000	,000
Sense of Self-Growth	,789	,000	,000
Sense of Control	,293	,000	,000
Problem Solving Capacity	,000	,695	,000
Social Monitoring Capacity	,000	,467	,000
Social Mobilizing Capacity	,000	,663	,000
Social Creating Capacity	,000	,657	,000

Table 197: Direct Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,714
Emotional Control	,000	,000	,865
Impulse Control	,000	,000	,306
Synchronicity	,000	,000	1,000
Creative Self-Concept	,000	1,384	,000

	APPMONSYS	CREEXSYS	SELFREGSYS
Self-Efficacy	,000	1,144	,000
Goal Orientation	,000	,417	,000
Change and Challenge Orientation	,000	1,116	,000
Positive Thinking	1,000	,000	,000
Sense of Coherence	1,023	,000	,000
Sense of Self-Growth	1,041	,000	,000
Sense of Control	,313	,000	,000
Problem Solving Capacity	,000	,970	,000
Social Monitoring Capacity	,000	,686	,000
Social Mobilizing Capacity	,000	,983	,000
Social Creating Capacity	,000	1,000	,000

Table 198: Standardized Direct Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,601
Emotional Control	,000	,000	,703
Impulse Control	,000	,000	,292
Synchronicity	,000	,000	,782
Creative Self-Concept	,000	,843	,000
Self-Efficacy	,000	,844	,000
Goal Orientation	,000	,322	,000
Change and Challenge Orientation	,000	,649	,000
Positive Thinking	,774	,000	,000
Sense of Coherence	,749	,000	,000
Sense of Self-Growth	,789	,000	,000
Sense of Control	,293	,000	,000
Problem Solving Capacity	,000	,695	,000
Social Monitoring Capacity	,000	,467	,000
Social Mobilizing Capacity	,000	,663	,000
Social Creating Capacity	,000	,657	,000

Table 199: Indirect Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,000
Emotional Control	,000	,000	,000
Impulse Control	,000	,000	,000
Synchronicity	,000	,000	,000
Creative Self-Concept	,000	,000	,000
Self-Efficacy	,000	,000	,000
Goal Orientation	,000	,000	,000
Change and Challenge Orientation	,000	,000	,000
Positive Thinking	,000	,000	,000
Sense of Coherence	,000	,000	,000
Sense of Self-Growth	,000	,000	,000
Sense of Control	,000	,000	,000

	APPMONSYS	CREEXSYS	SELFREGSYS
Problem Solving Capacity	,000	,000	,000
Social Monitoring Capacity	,000	,000	,000
Social Mobilizing Capacity	,000	,000	,000
Social Creating Capacity	,000	,000	,000

T

Table 200: Standardized Indirect Effects (Group number 1 - Default model)

	APPMONSYS	CREEXSYS	SELFREGSYS
Irritability Control	,000	,000	,000
Emotional Control	,000	,000	,000
Impulse Control	,000	,000	,000
Synchronicity	,000	,000	,000
Creative Self-Concept	,000	,000	,000
Self-Efficacy	,000	,000	,000
Goal Orientation	,000	,000	,000
Change and Challenge Orientation	,000	,000	,000
Positive Thinking	,000	,000	,000
Sense of Coherence	,000	,000	,000
Sense of Self-Growth	,000	,000	,000
Sense of Control	,000	,000	,000
Problem Solving Capacity	,000	,000	,000
Social Monitoring Capacity	,000	,000	,000
Social Mobilizing Capacity	,000	,000	,000
Social Creating Capacity	,000	,000	,000

Model Fit Summary

Table 201: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	51	241,241	101	,000	2,389
Saturated model	152	,000	0		
Independence model	16	783,081	136	,000	5,758

Table 202: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,692	,585	,794	,708	,783
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

Table 203: Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	,743	,514	,582
Saturated model	,000	,000	,000
Independence model	1,000	,000	,000

Table 204: NCP

Model	NCP	LO 90	HI 90
Default model	140,241	98,608	189,580
Saturated model	,000	,000	,000
Independence model	647,081	562,822	738,838

Table 205: FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2,711	1,576	1,108	2,130
Saturated model	,000	,000	,000	,000
Independence model	8,799	7,271	6,324	8,302

Table 206: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,125	,105	,145	,000
Independence model	,231	,216	,247	,000

Table 207: AIC

Model	AIC	BCC	BIC	CAIC
Default model	343,241	367,324		
Saturated model	304,000	375,778		
Independence model	815,081	822,637		

Table 208: ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3,857	3,389	4,411	4,127
Saturated model	3,416	3,416	3,416	4,222
Independence model	9,158	8,211	10,189	9,243

Table 209: HOELTER

Model	HOELTER .05	HOELTER .01
Default model	47	51
Independence model	19	21